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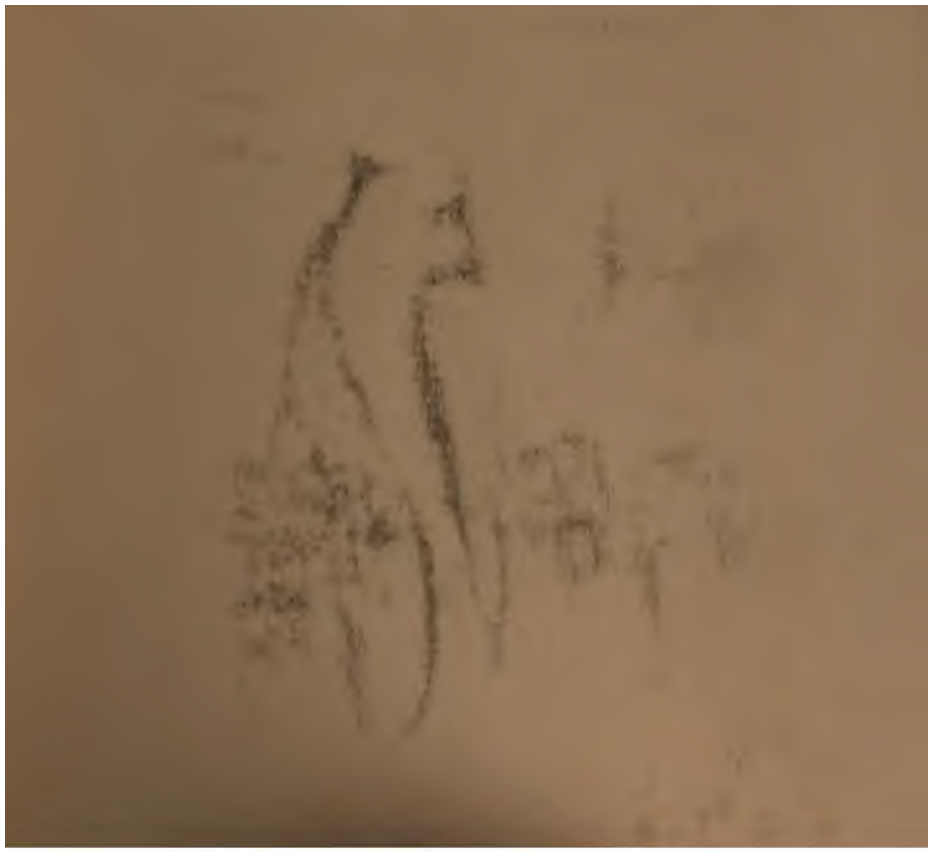

Benjamin Franklin
From a painting by David Martin
In the possession of Mrs. Thomas McKean

THE WRITINGS

OF

BENJAMIN FRANKLIN

COLLECTED AND EDITED

WITH A LIFE AND INTRODUCTION

BY

ALBERT HENRY SMYTH

VOLUME II

1722–1750

New York

THE MACMILLAN COMPANY

LONDON: MACMILLAN & CO., LTD.

1905

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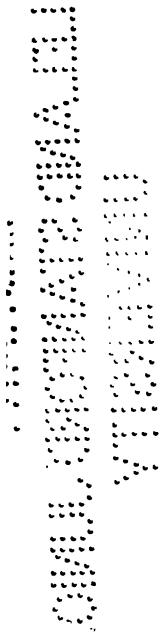
Set up and electrotyped. Published November, 1905.



Norwood Press
J. S. Cushing & Co. — Berwick & Smith Co.
Norwood, Mass., U.S.A.

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PREFATORY NOTE

EVERYTHING of literary interest or historic value written by Franklin between 1722 and 1750 is included in this volume. I have omitted a few essays which have appeared in previous editions; some because they were not written by Franklin, and others because they are quite worthless. Thus the two papers "On Government" (Bigelow, I: 425) were written by George Webbe, who acknowledged the authorship in the columns of *The Pennsylvania Gazette.* The essays on "Public Men," "Self Denial," "The Usefulness of Mathematics," "True Happiness," "On Discoveries," "The Waste of Life," "The Causes of Earthquakes," "The Drinker's Dictionary," "A Case of Casuistry," have been ascribed to Franklin on insufficient evidence, and are at any rate dull and trivial.

Their place has been taken in this volume by certain highly characteristic contributions made by Franklin to *The Pennsylvania Gazette*—"A Witch Trial at Mount Holly," "An Apology for Printers," "How to protect Towns from Fire," "Shavers and Trimmers," and "A Meditation on a Quart Mugg." I have reprinted "The Dialogues on Virtue and Pleasure" because Franklin refers to them with satisfaction in his Autobiography. I have omitted his letter to Cadwallader Colden containing his conjecture as to the cause why ships in crossing the Atlantic have longer

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Passages in sailing westward than in sailing eastward, because Franklin desired that the letter should not be reprinted. He discovered that his theory, which related to the diurnal motion of the earth, was quite untenable, and he so informed Jonathan Williams in a letter dated January 19, 1786.

The Prefaces to "Poor Richard's Almanac" are here for the first time reprinted in any collection of Franklin's works. All are included in this volume except those that relate to the making of wine, the appearance of the planets, and Middleton's account of life in the region of Hudson's Bay.

I have omitted the "Dissertation on Liberty and Necessity" (1726). The work has no value, and it would be an injury and an offence to the memory of Franklin to republish it. "My printing this pamphlet," he declared, "was another *erratum*." Writing to his friend Vaughan he said, "There were only a hundred copies printed of which I gave a few to friends, and afterwards disliking the piece, as conceiving it might have an ill tendency, I burnt the rest except one copy."

The "Dogood Papers" are now for the first time reprinted since the youthful author consigned them to *The New England Courant*.

A. H. S.

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TABLE OF ABBREVIATIONS

A. P. S.	American Philosophical Society.
B. M.	British Museum.
B. N.	Bibliothèque Nationale.
D. S. W.	Department of State, Washington.
H.	Harvard University.
L. C.	Library of Congress.
L. L.	Lenox Library.
Lans.	Lansdowne House.
M. H. S.	Massachusetts Historical Society.
P. C.	Private Collection.
P. H. S.	Pennsylvania Historical Society.
P. R. O.	Public Record Office.
P. R. O. A. W. I.	Public Record Office: America and West Indies.
P. A. E. E. U.	Paris Departement des Affaires Etrangères, — Etats-Unis.
U. of P.	University of Pennsylvania.
Y.	Yale University.
B.	Bigelow.
F.	Benjamin Franklin.
S.	Sparks.
V.	Benjamin Vaughan.
W. T. F.	W. T. Franklin.

Franklin's Mss. exist in several forms. He made a rough draft of every letter that he wrote; he then made a clean copy to send away, and often retained a letter-press copy. To indicate the state of the document, the following abbreviations are used: d. = draft, trans. = transcript, l. p. = letter-press copy.

THE DOGOOD PAPERS

FRANKLIN has told in his Autobiography how he wrote an anonymous paper when he was but sixteen years of age and put it in at night under the door of his brother's printing house. The following morning it was commented on in his hearing, and he had "the exquisite pleasure" of finding that it met with the approbation of the contributors to *Couranto*, as the *New England Courant* was then called. In all probability this article was the first of the "Dogood Papers," and March, 1722 is therefore the time of Franklin's first adventure in literature. Editorial encouragement was promptly given to the unknown author. In the same issue of the newspaper that contained his communication appeared the notice, "As the Favour of Mrs. Dogood's Correspondence is acknowledged by the Publisher of this Paper, lest any of her Letters should miscarry, he desires they may be deliver'd at his Printing-House, or at the Blue Ball in Union street, and no questions shall be ask'd of the Bearer." Thus encouraged Franklin continued to write the letters of Mrs. Silence Dogood, at fortnightly intervals, until the series ended with the fourteenth paper, published October 8, 1722.

They were first accredited to Franklin by J. T. Buckingham in 1850 ("Specimens of Newspaper Literature," I, 62), and further ascribed to him by James Parton in his

"Life and Times of Franklin" (1864, Vol. I, p. 84). In the first sketch, or draft scheme, of his Autobiography Franklin claims "Mrs. Dogood's letters" as his own. They have never appeared in any collection of his writings. They are now reprinted from the file of the *New England Courant* in the library of the Massachusetts Historical Society.

The character of the young Franklin is interestingly revealed in these papers; and it will be seen that his sedulous attention to the language of the *Spectator* had already formed his literary style, and stamped it with those qualities that have given him a high and enduring place among American writers.

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3. THE DOGOOD PAPERS

The New-England Courant. No 35

From Monday March 26. to Monday April 2. 1722

To the Author of the New-England Courant.

SIR,

It may not be improper in the firſt Place to inform your Readers, that I intend once a Fortnight to preſent them, by the Help of this Paper, with a ſhort Epiſtle, which I preſume will add ſomewhat to their Entertainment.

And ſince it is obſerved, that the Generality of People, now a days, are unwilling either to commend or diſpraiſe what they read, until they are in ſome meaſure informed who or what the Author of it is, whether he be *poor* or *rich*, *old* or *young*, a *Scollar* or a *Leather Apron Man*, &c. and

give their Opinion of the Performance, according to the Knowledge which they have of the Author's Circumſtances, it may not be amiſs to begin with a ſhort Account of my paſt Life and preſent Condition, that the Reader may not be at a Loſs to judge whether or no my Lucubrations are worth his reading.

At the time of my Birth, my Parents were on Ship-board in their Way from *London* to *N. England.* My Entrance into this troubleſome World was attended with the Death of my Father, a Misfortune, which tho' I was not then capable of knowing, I ſhall never be able to forget; for as he, poor Man, ſtood upon the Deck rejoycing at my Birth, a mercileſs Wave entred the Ship, and in one Moment carry'd him beyond Reprieve. Thus was the *firſt* Day which I ſaw, the *laſt* that was ſeen by my Father; and thus was my diſconſolate Mother at once made both a *Parent* and a *Widow.*

When we arrived at *Boston* (which was not long after) I was put to Nurſe in a Country Place, at a ſmall Diſtance from the Town, where I went to School, and paſt my Infancy and Childhood in Vanity and Idleneſs, until I was bound out Apprentice, that I might no longer be a Charge to my Indigent Mother, who was put to hard Shifts for a Living.

My Maſter was a Country Miniſter, a pious good-natur'd young Man, & a Batchelor: He labour'd with all his Might to inſtil vertuous and godly Principles into my tender Soul, well knowing that it was the moſt ſuitable Time to make deep and laſting Impreſſions on the Mind, while it was yet untainted with Vice, free and unbiaſs'd. He endeavour'd that I might be inſtructed in all that Knowledge and Learning which is neceſſary for our Sex, and deny'd me no Accompliſhment that could poſſibly be attained in a

Country Place, ſuch as all Sorts of Needle-Work, Writing, Arithmetick, &c. and obſerving that I took a more than ordinary Delight in reading ingenious Books, he gave me the free Uſe of his Library, which tho' it was but ſmall, yet it was well choſe, to inform the Underſtanding rightly and enable the Mind to frame great and noble Ideas.

Before I had liv'd quite two Years with this Reverend Gentleman, my indulgent Mother departed this Life, leaving me as it were by my ſelf, having no Relation on Earth within my Knowledge.

I will not abuſe your Patience with a tedious Recital of all the frivolous Accidents of my Life, that happened from this Time until I arrived to Years of Diſcretion, only inform you that I liv'd a chearful Country Life, ſpending my leiſure Time either in ſome innocent Diverſion with the neighbouring Females, or in ſome ſhady Retirement, with the beſt of Company, *Books*. Thus I paſt away the Time with a Mixture of Profit and Pleaſure, having no Affliction but what was imaginary, and created in my own Fancy; as nothing is more common with us Women, than to be grieving for nothing, when we have nothing elſe to grieve for.

As I would not engroſs too much of your Paper at once, I will defer the Remainder of my Story until my next Letter; in the mean time deſiring your Readers to exerciſe their Patience, and bear with my Humours now and then, becauſe I ſhall trouble them but ſeldom. I am not inſenſible of the Impoſsibility of pleaſing all, but I would not willingly diſpleaſe any; and for thoſe who will take Offence where none is intended, they are beneath the Notice of

Your Humble Servant,

SILINC DOGOOD

☞ *As the Favour of Mrs. Dogood's Correſpondence is acknowledged by the Publiſher of this Paper, leſt any of her Letters ſhould miſcarry, he deſires they may for the future be deliver'd at his Printing-Houſe, or at the Blue Ball in Union-Street, and no Queſtions ſhall be ask'd of the Bearer.*

The (pencilled above) 39
New England Courant. [No 37]

From Monday April 9. to Monday April 16. 1722

To the Author of the New-England Courant

Sir No 2

Histories of Lives are ſeldom entertaining, unleſs they contain ſomething either admirable or exemplar: And ſince there is little or nothing of this Nature in my own Adventures, I will not tire your Readers with tedious Particulars of no Conſequence, but will briefly, and in as few Words as poſsible relate, the moſt material Occurrences of my Life, and according to my Promiſe, confine all to this Letter.

MY Reverend Maſter who had hitherto remained a Batchelor, (after much Meditation on the Eighteenth verſe of the ſecond Chapter of *Geneſis*,) took up a Reſolution to marry; and having made ſeveral unſucceſsful fruitleſs Attempts on the more topping Sort of our Sex, and being tir'd with making troubleſome Journeys and Viſits to no Purpoſe, he began unexpectedly to caſt a loving Eye upon Me, whom he had brought up cleverly to his Hand.

THERE is certainly ſcarce any Part of a Man's Life in which he appears more ſilly and ridiculous, than when he makes his first Onſet in Courtship. The aukward Manner

in which my Maſter firſt diſcover'd his Intentions, made me, in ſpite of my Reverence to his Perſon, burst out into an unmannerly Laughter: However, having ask'd his Pardon, and with much ado compos'd my Countenance, I promis'd him I would take his Propoſal into ſerious Conſideration, and ſpeedily give him an Anſwer.

AS he had been a great Benefactor (and in a Manner a Father to me) I could not well deny his Requeſt, when I once perceived he was in earneſt. Whether it was Love, or Gratitude, or Pride, or all Three that made me conſent, I know not; but it is certain, he found it no hard Matter, by the Help of his Rhetorick to conquer my Heart, and perſwade me to marry him.

THIS unexpected Match was very aſtoniſhing to all the Country round about and ſerved to furnish them with Diſcourſe for a long Time after; ſome approving it, others diſliking it, as they were led by their various Fancies and Inclinations.

WE lived happily together in the Heighth of conjugal Love and mutual Endearments, for near Seven Years in which Time we added Two likely Girls and a Boy to the Family of the *Dogoods:* But alas! When my Sun was in its meridian Altitude, inexorable unrelenting Death, as if he had envy'd my Happineſs and Tranquility, and reſolv'd to make me entirely miſerable by the Loſs of ſo good an Huſband, haſtened his Flight to the Heavenly World, by a ſudden unexpected Departure from this.

I HAVE now remained in a State of Widowhood for ſeveral Years, but it is a State I never much admir'd, and I am apt to fancy that I could be eaſily perſwaded to marry again, provided I was ſure of a good-humour'd, ſober, agree-

able Companion: But one, even with theſe few good Qualities, being hard to find, I have lately relinquiſhed all Thoughts of that Nature.

AT present I paſs away my leiſure Hours in Converſation, either with my honeſt Neighbour *Ruſticus* and his Family, or with the ingenious Miniſter of our Town, who now lodges at my Houſe, and by whoſe Aſſiſtance I intend now and then to beautify my Writings with a Sentence or two in the learned Languages, which will not only be faſhionable, and pleaſing to thoſe who do not underſtand it, but will likewiſe be very ornamental.

I SHALL conclude this with my own Character, which (one would think) I ſhould be beſt able to give. *Know then*, That I am an Enemy to Vice, and a Friend to Vertue. I am one of an extenſive Charity, and a great Forgiver of *private* Injuries: A hearty Lover of the Clergy and all good Men, and a mortal Enemy to arbitrary Government & unlimited Power. I am naturally very jealous for the Rights and Liberties of my Country: & the leaſt appearance of an Incroachment on thoſe invaluable Priviledges, is apt to make my Blood boil exceedingly. I have likewiſe a natural Inclination to obſerve and reprove the Faults of others, at which I have an excellent Faculty. I ſpeak this by Way of Warning to all ſuch whoſe offences ſhall come under my Cognizance, for I never intend to wrap my Talent in a Napkin. To be brief; I am courteous and affable, good-humour'd (unleſs I am firſt provok'd,) and handſome, and ſometimes witty, but always,

SIR, *Your Friend, and*
Humble Servant,
SILENCE DOGOOD.

No 39

From Monday April 23. to Monday April 30. 1722

To the Author of the New-England Courant.

Sir, No 3

It is undoubtedly the Duty of all Perſons to ſerve the Country they live in, according to their Abilities; yet I ſincerely acknowledge, that I have hitherto been very deficient in this Particular; whether it was for want of Will or Opportunity, I will not at preſent ſtand to determine: Let it ſuffice, that I now take up a Reſolution, to do for the future all that *lies in my Way* for the Service of my Countrymen.

I HAVE from my Youth been indefatigably ſtudious to gain and treaſure up in my Mind all uſeful and deſireable Knowledge, eſpecially ſuch as tends to improve the Mind, and enlarge the Underſtanding: And as I have found it very beneficial to me, I am not without Hopes, that communicating my ſmall Stock in this Manner, by Peace-meal to the Publick, may be at leaſt in ſome Meaſure uſeful.

I AM very ſenſible that it is impoſsible for me, or indeed any *one* Writer to pleaſe *all* Readers at once. Various Perſons have different Sentiments; and that which is pleaſant and delightful to one, gives another a Diſgust. He that would (in this Way of Writing) pleaſe all, is under a Neceſſity to make his Themes almoſt as numerous as his Letters. He muſt one while be merry and diverting, then more ſolid and ſerious; one while ſharp and ſatyrical, then (to mollify that) be ſober and religious; at *one* Time let the Subject be Politicks, then let the next Theme be Love: Thus will every one, one Time or other find ſome thing agreeable to his own Fancy, and in his Turn be delighted.

ACCORDING to this Method I intend to proceed, beſtowing now and then a few gentle Reproofs on thoſe who deſerve them, not forgetting at the ſame time to applaud thoſe whoſe Actions merit Commendation. And here I muſt not forget to invite the ingenious Part of your Readers, particularly thoſe of my own Sex to enter into a Correſpondence with me, aſſuring them, that their Condeſcenſion in this Particular ſhall be received as a Favour, and accordingly acknowledged.

I THINK I have now finiſh'd the Foundation, and I intend in my next to begin to raiſe the Building. Having nothing more to write at preſent, I must make the uſual excuſe in ſuch Caſes, of *being in haſte*, aſſuring you that I ſpeak from my Heart when I call my ſelf, The most humble and obedient of all the Servants your Merits have acquir'd,

SILENCE DOGOOD

Thoſe who incline to favour Mrs. Dogood with their Correſpondence, are deſir'd to ſend their Letters (directed to her) to the Publishers of this Paper.

The
New-England Courant. [No. 41

From Monday May 7. to Monday May 14. 1722.

An ſum etiam nunc vel Græcè loqui vel Latinè docendus ?
CICERO.

To the Author of the New-England Courant.

SIR, No. IV

DISCOURSING the other Day at Dinner with my Reverend Boarder, formerly mention'd, (whom for Diſtinction

ſake we will call by the Name of *Clericus*,) concerning the Education of Children, I ask'd his Advice about my young Son *William*, whether or no I had beſt beſtow upon him Academical Learning, or (as our Phraſe is) *bring him up at our College:* He perſwaded me to do it by all Means, uſing many weighty Arguments with me, and anſwering all the Objections that I could form againſt it; telling me withal, that he did not doubt but that the Lad would take his Learning very well, and not idle away his Time as too many there now-a-days do. These words of *Clericus* gave me a Curioſity to inquire a little more ſtrictly into the preſent Circumſtances of that famous Seminary of Learning; but the Information which he gave me, was neither pleaſant, nor ſuch as I expected.

AS ſoon as Dinner was over, I took a ſolitary Walk into my Orchard, ſtill ruminating on *Clericus's* Diſcourſe with much Conſideration, until I came to my uſual Place of Retirement under the *Great Apple-Tree;* where having ſeated my ſelf, and careleſly laid my Head on a verdant Bank, I fell by Degrees into a ſoft and undiſturbed Slumber. My waking Thoughts remained with me in my Sleep, and before I awak'd again, I dreamt the following DREAM.

I FANCY'D I was travelling over pleaſant and delightful Fields and Meadows, and thro' many ſmall Country Towns and Villages; and as I paſs'd along, all Places reſounded with the Fame of the Temple of LEARNING: Every Peaſant, who had wherewithal, was preparing to ſend one of his Children at leaſt to this famous Place; and in this Caſe moſt of them conſulted their own Purſes instead of their Childrens Capacities: So that I obſerved, a great many, yea, the moſt part of thoſe who were travelling thither,

were little better than Dunces and Blockheads. Alas! Alas!

AT length I entred upon a ſpacious Plain, in the Midſt of which was erected a large and ſtately Edifice: It was to this that a great Company of Youths from all Parts of the Country were going; ſo ſtepping in among the Crowd, I paſſed on with them, and preſently arrived at the Gate.

THE Paſſage was Kept by two ſturdy Porters named *Riches* and *Poverty*, and the latter obſtinately refuſed to give Entrance to any who had not firſt gain'd the Favour of the former; ſo that I obſerved, many who came even to the very Gate, were obliged to travel back again as ignorant as they came, for want of this neceſſary Qualification. However, as a Spectator I gain'd Admittance, and with the reſt entred directly into the Temple.

IN the Middle of the great Hall ſtood a ſtately and magnificent Throne, which was aſcended to by two high and difficult Steps. On the Top of it ſat LEARNING in awful State; ſhe was apparelled wholly in Black, and ſurrounded almoſt on every Side with innumerable Volumes in all Languages. She ſeem'd very buſily employ'd in writing ſomething on half a Sheet of Paper, and upon Enquiry, I underſtood ſhe was preparing a Paper, call'd, *The New-England Courant.* On her Right Hand ſat *Engliſh*, with a pleaſant ſmiling Countenance, and handſomely attir'd; and on her left were ſeated ſeveral *Antique Figures* with their Faces vail'd. I was conſiderably puzzl'd to gueſs who they were, until one informed me, (who ſtood beſide me,) that thoſe Figures on her left Hand were *Latin*, *Greek*, *Hebrew*, &c. and that they were very much reſerv'd, and ſeldom or never unvail'd their Faces here, and then to few or none,

tho' moſt of thoſe who have in this Place acquir'd ſo much Learning as to distinguiſh them from *Engliſh*, pretended to an intimate Acquaintance with them. I then enquir'd of him, what could be the Reaſon why they continued vail'd, in this Place eſpecially: He pointed to the Foot of the Throne, where I ſaw *Idleneſs*, attended with *Ignorance*, and these (he informed me) were they, who firſt vail'd them, and ſtill kept them ſo.

NOW I obſerved, that the whole Tribe who entred into the Temple with me, began to climb the Throne; but the Work proving troubleſome and difficult to moſt of them, they withdrew their Hands from the Plow, and contented themſelves to ſit at the Foot, with Madam *Idleneſs* and her Maid *Ignorance*, until those who were aſſiſted by Diligence and a docible Temper, had well nigh got up the firſt Step: But the Time drawing nigh in which they could no way avoid aſcending, they were fain to crave the Aſſiſtance of thoſe who had got up before them, and who, for the Reward perhaps of a *Pint of Milk*, or a *Piece of Plumb-Cake*, lent the Lubbers a helping Hand, and ſat them in the Eye of the World, upon a Level with themſelves.

THE other Step being in the ſame Manner aſcended, and the uſual Ceremonies at an End, every Beetle-Scull ſeem'd well ſatisfy'd with his own Portion of Learning, tho' perhaps he was *e'en juſt* as ignorant as ever. And now the Time of their Departure being come, they march'd out of Doors to make Room for another Company, who waited for Entrance: And I, having ſeen all that was to be ſeen, quitted the Hall likewiſe, and went to make my Obſervations on thoſe who were juſt gone out before me.

SOME I perceiv'd took to Merchandizing, others to

Travelling, ſome to one Thing, ſome to another, and ſome to Nothing; and many of them from henceforth, for want of Patrimony, liv'd as poor as church Mice, being unable to dig, and aſham'd to beg, and to live by their Wits it was impoſſible. But the moſt Part of the Crowd went along a large beaten Path, which led to a Temple at the further End of the Plain, call'd, *The Temple of Theology.* The Buſineſs of thoſe who were employ'd in this Temple being laborious and painful, I wonder'd exceedingly to ſee ſo many go towards it; but while I was pondering this Matter in my Mind, I ſpy'd *Pecunia* behind a Curtain, beckoning to them with her Hand, which Sight immediately ſatisfy'd me for whoſe Sake it was, that a great Part of them (I will not ſay all) travel'd that Road. In this Temple I ſaw nothing worth mentioning, except the ambitious and fraudulent Contrivances of *Plagius*, who (notwithſtanding he had been ſeverely reprehended for ſuch Practices before) was diligently tranſcribing ſome eloquent Paragraphs out of *Tillotſon's* Works, &c. to embellish his own.

NOW I bethought my ſelf in my Sleep, that it was Time to be at Home, and as I fancy'd I was travelling back thither, I reflected in my Mind on the extream Folly of those Parents, who, blind to their Childrens Dulneſs, and inſenſible of the Solidity of their Skulls, because they think their Purſes can afford it, will needs ſend them to the Temple of Learning, where, for want of a ſuitable Genius, they learn little more than how to carry themſelves handſomely, and enter a Room genteely, (which might as well be acquir'd at a Dancing-School,) and from whence they return, after Abundance of Trouble and Charge, as great Blockheads as ever, only more proud and self-conceited.

WHILE I was in the midſt of theſe unpleaſant Reflections, *Clericus* (who with a Book in his Hand was walking under the Trees) accidentally awak'd me; to him I related my Dream with all its Particulars, and he, without much Study, preſently interpreted it, aſsuring me, *That it was a lively Repreſentation of* HARVARD COLLEGE, *Etcetera.*

I remain, Sir,
Your Humble Servant,
SILENCE DOGOOD.

The
New-England Courant. [N° 43

From Monday May 21. to Monday May 28. 1722.

Mulier Muliere magis congruet. — TER.

To the Author of the New-England Courant.

SIR, No V.

I SHALL here preſent your Readers with a Letter from one, who informs me that I have begun at the wrong End of my Buſineſs, and that I ought to begin at Home, and cenſure the Vices and Follies of my own Sex, before I venture to meddle with your's: Nevertheleſs, I am reſolved to dedicate this Speculation to the Fair Tribe, and endeavour to ſhow, that Mr. *Ephraim* charges Women with being particularly guilty of Pride, Idleneſs, &c. wrongfully, inaſmuch as the Men have not only as great a Share in thoſe Vices as the Women, but are likewiſe in a great Meaſure the Cauſe of that which the Women are guilty of. I think it will be beſt to produce my Antagoniſt, before I encounter him.

To Mrs. DOGOOD.

Madam,

'My Deſign in troubling you with this Letter is, to deſire you 'would begin with your own Sex firſt: Let the firſt Volley 'of your Reſentments be directed against *Female* Vice; let 'Female Idleneſs, Ignorance and Folly, (which are Vices 'more peculiar to your Sex than to our's,) be the Subject of 'your Satyrs, but more eſpecially Female Pride, which I 'think is intollerable. Here is a large Field that wants Cul- 'tivation, and which I believe you are able (if willing) to 'improve with Advantage; and when you have once re- 'formed the Women, you will find it a much eaſier Task to 'reform the Men, becauſe Women are the prime Cauſes of a 'great many Male Enormities. This is all at preſent from

Your Friendly Wellwiſher,

Ephraim Cenſorious.

AFTER Thanks to my Correſpondent for his Kindneſs in cutting out Work for me, I muſt aſſure him, that I find it a very difficult Matter to reprove Women ſeparate from the Men; for what Vice is there in which the Men have not as great a Share as the Women? and in ſome have they not a far greater, as in Drunkenneſs, Swearing, &c.? And if they have, then it follows, that when a Vice is to be reproved, Men, who are moſt culpable, deſerve the moſt Reprehenſion, and certainly therefore, ought to have it. But we will wave this point at present, and proceed to a particular Conſideration of what my Correſpondent calls *Female Vice.*

AS for Idleneſs, if I ſhould *Quære,* Where are the greateſt Number of its Votaries to be found, with us or the Men? it might I believe be eaſily and truly anſwer'd, *With the latter.*

For, notwithſtanding the Men are commonly complaining how hard they are forc'd to labour, only to maintain their Wives in Pomp and Idleneſs, yet if you go among the Women, you will learn, that *they have always more Work upon their Hands than they are able to do*, and that *a Woman's Work is never done*, &c. But however, Suppose we ſhould grant for once, that we are generally more idle than the Men, (without making any Allowance for the *Weakneſs of the Sex*,) I deſire to know whoſe Fault it is? Are not the Men to blame for their Folly in maintaining us in Idleneſs? Who is there that can be handſomely ſupported in Affluence, Eaſe and Pleaſure by another, that will chuſe rather to earn his Bread by the Sweat of his own Brows? And if a Man will be ſo fond and ſo fooliſh, as to labour hard himſelf for a Livelihood, and ſuffer his Wife in the mean Time to ſit in Eaſe and Idleneſs, let him not blame her if ſhe does ſo, for it is in a great Measure his own Fault.

And now for the Ignorance and Folly which he reproaches us with, let us ſee (if we are Fools and Ignoramus's) whoſe is the Fault, the Men's or our's. An ingenious Writer, having this Subject in Hand, has the following Words, wherein he lays the Fault wholly on the Men, for not allowing Women the Advantages of Education.

"I have (ſays he) often thought of it as one of the moſt "barbarous Customs in the World, conſidering us as a civil-"iz'd and Chriſtian Country, that we deny the Advantages "of Learning to Women. We reproach the Sex every Day "with Folly and Impertinence, while I am confident, had "they the Advantages of Education equal to us, they would "be guilty of leſs than our ſelves. One would wonder "indeed how it ſhould happen that Women are converſible

"at all, ſince they are only beholding to natural Parts for all "their Knowledge. Their Youth is ſpent to teach them to "ſtitch and ſow, or make Baubles. They are taught to read "indeed, and perhaps to write their Names, or ſo; and that "is the Heigth of a Womans Education. And I would but "ask any who ſlight the Sex for their Underſtanding, What "is a Man (a Gentleman, I mean) good for that is taught no "more? If Knowledge and Understanding had been uſeleſs "Additions to the Sex, God Almighty would never have "given them Capacities, for he made nothing Needleſs. "What has the Woman done to forfeit the Priviledge of being "taught? Does ſhe plague us with her Pride and Imper- "tinence? Why did we not let her learn, that she might "have had more Wit? Shall we upraid Women with Folly, "when 'tis only the Error of this inhumane Cuſtom that "hindred them being made wiser."

SO much for Female Ignorance and Folly; and now let us a little conſider the Pride which my Correſpondent thinks is *intolerable*. By this Expreſsion of his, one would think he is ſome dejected Swain, tyranniz'd over by ſome cruel haughty Nymph, who (perhaps he thinks) has no more Reaſon to be proud than himſelf. *Alas-a-day!* What ſhall we ſay in this Caſe! Why truly, if Women are proud, it is certainly owing to the Men ſtill; for if they will be ſuch *Simpletons* as to humble themſelves at their Feet, and fill their credulous Ears with extravagant Praiſes of their Wit, Beauty, and other Accompliſhments (perhaps where there are none too,) and when Women are by this Means per- ſwaded that they are Something more than humane, what Wonder is it, if they carry themſelves haughtily, and live extravagantly. Notwithſtanding, I believe there are more

Inſtances of extravagant Pride to be found among Men than among Women, and this Fault is certainly more hainous in the former than in the latter.

UPON the whole, I conclude, that it will be impoſſible to laſh any Vice, of which the Men, are not equally guilty with the Women, and conſequently deſerve an equal (if not a greater, Share in the Cenſure. However, I exhort both to amend, where both are culpable, otherwiſe they may expect to be ſeverely handled by Sir,

Your Humble Servant,
SILENCE DOGOOD.

N. B. *Mrs.* Dogood *has lately left her Seat in the Country, and come to Boſton, where ſhe intends to tarry for the Summer Seaſon, in order to compleat her Obſervations of the preſent reigning Vices of the Town.*

(Paper)
N° 45

June 4. to Monday June 11. 1722.

Quem Dies videt veniens Superbum,
Hunc Dies vidit fugiens jacentem.
SENECA.

To the Author of the New-England Courant.

SIR, [No VI.

AMONG the many reigning Vices of the Town which may at any Time come under my Conſideration and Repreheniion, there is none which I am more inclin'd to expoſe than that of *Pride.* It is acknowledg'd by all to be a Vice the most hateful to God and Man. Even thoſe who nouriſh it in themſelves, hate to ſee it in others. The proud Man

aſpires after Nothing leſs than an unlimited Superiority over his Fellow-Creatures. He has made himſelf a King in *Soliloquy;* fancies himſelf conquering the World, and the Inhabitants thereof conſulting on proper Methods to acknowledge his Merit. I ſpeak it to my Shame. I my ſelf was a Queen from the Fourteenth to the Eighteenth Year of my Age, and govern'd the World all the Time of my being govern'd by my Maſter. But this ſpeculative Pride may be the Subject of another Letter: I ſhall at preſent confine my Thoughts to what we call *Pride of Apparel.* This Sort of Pride has been growing upon us ever ſince we parted with our Homeſpun Cloaths for *Fourteen Penny Stuff*, &c. And the *Pride of Apparel* has begot and nouriſh'd in us a *Pride of Heart*, which portends the Ruin of Church and State. *Pride goeth before Deſtruction, and a haughty Spirit before a Fall:* And I remember my late Reverend Husband would often ſay upon this Text, That a Fall was the *natural Conſequence*, as well as Puniſhment of Pride. Daily Experience is ſufficient to evince the Truth of this Obſervation. Perſons of ſmall Fortune under the Dominion of this Vice, ſeldom conſider their Inability to maintain themſelves in it, but ſtrive to imitate their Superiors in eſtate, or Equals in Folly, until one Misfortune comes upon the Neck of another, and every Step they take is a Step backwards. By ſtriving to appear rich they become really poor, and deprive themſelves of that Pity and Charity, which is due to the humble poor Man, who is made ſo more immediately by Providence.

THIS Pride of Apparel will appear the more fooliſh, if we conſider, that thoſe airy Mortals, who have no other Way of making themſelves conſiderable but by gorgeous Apparel, draw after them Crowds of Imitators, who hate each other

while they endeavour after a Similitude of Manners. They deſtroy by Example, and envy one another's Deſtruction.

I CANNOT diſmiſs this Subject without ſome Obſervations on a particular Faſhion now reigning among my own Sex, the moſt immodeſt and inconvenient of any the Art of Woman has invented, namely, that of *Hoop-Petticoats*. By theſe they are incommoded in their General and Particular Calling; and therefore they cannot anſwer the ends of either neceſſary or ornamental Apparel. Theſe monſtrous topſy-turvy *Mortar-Pieces*, are neither fit for the Church, the Hall, or the Kitchen; and if a Number of them were well mounted on *Noddles-Island*, they would look more like Engines of War for bombarding the Town, than Ornaments of the Fair Sex. An honeſt Neighbour of mine, happening to be in Town ſome time ſince on a publick Day, inform'd me, that he ſaw four Gentlewomen with their Hoops half mounted in a Balcony, as they withdrew to the Wall, to the great Terror of the Militia, who (he thinks) might attribute their irregular Volleys to the formidable Appearance of the Ladies Petticoats.

I ASSURE you, Sir, I have but little Hopes of perſwading my Sex, by this Letter, utterly to relinquiſh the extravagant Foolery, and Indication of Immodeſty, in this monſtrous Garb of their's; but I would at leaſt deſire them to leſsen the Circumference of their Hoops, and leave it with them to conſider, Whether they, who pay no Rates or Taxes, ought to take up more Room in the King's Highway, than the Men, who yearly contribute to the Support of the Government.

I am, Sir,

Your Humble Servant,

SILENCE DOGOOD.

N° 47

June 18. to Monday June 25. 1722.

Give me the Muſe, whose generous Force,
Impatient of the Reins,
Purſues an unattempted Courſe,
Breaks all the Criticks Iron Chains.

WATTS.

To the Author of the New-England Courant.

SIR, No VII.

It has been the Complaint of many Ingenious Foreigners, who have travell'd amongſt us, *That good Poetry is not to be expected in* New-England. I am apt to Fancy, the Reaſon is, not becauſe our Countrymen are altogether void of a Poetical Genius, nor yet becauſe we have not thoſe Advantages of Education which other Countries have, but purely becauſe we do not afford that Praiſe and Encouragement which is merited, when any thing extraordinary of this Kind is produc'd among us: Upon which Conſideration I have determined, when I meet with a Good Piece of *New-England* Poetry, to give it a ſuitable Encomium, and thereby endeavour to diſcover to the World ſome of its Beautys, in order to encourage the Author to go on, and bleſs the World with more, and more Excellent Productions.

THERE has lately appear'd among us a moſt Excellent Piece of Poetry, entituled, *An Elegy upon the much Lamented Death of Mrs.* Mehitebell Kitel, *Wife of Mr.* John Kitel *of* Salem, *Etc.* It may juſtly be ſaid in its Praiſe, without Flattery to the Author, that it is the moſt *Extraordinary* Piece that was ever wrote in *New-England.* The Language is ſo ſoft and Eaſy, the Expreſſion ſo moving and

pathetick, but above all, the Verſe and Numbers ſo Charming and Natural, that it is almoſt beyond Compariſon.

The Muſe *diſdains*[1]
Thoſe Links and Chains,
Meaſures and Rules of Vulgar Strains,
And o'er the Laws of Harmony a Sovereign Queen she reigns.

I FIND no English Author, Ancient or Modern, whoſe Elegies may be compar'd with this, in reſpect to the Elegance of Stile, or Smoothneſs of Rhime; and for the affecting Part, I will leave your Readers to judge, if ever they read any Lines, that would ſooner make them *draw their Breath* and Sigh, if not ſhed Tears, than theſe following.

Come let us mourn, for we have loſt a
Wife, a Daughter, and a Siſter,
Who has lately taken Flight, and
greatly we have miſt her.

In another place,

Some little Time *before ſhe yielded up her Breath,*
She ſaid, I ne'er ſhall hear one Sermon more on Earth.
She kiſt her Huſband ſome little Time *before ſhe expir'd,*
Then lean'd her Head the Pillow on, juſt out of Breath and tir'd.

BUT the Threefold Appellation in the firſt Line

— a Wife, a Daughter, and a Siſter,

muſt not paſs unobſerved. That Line in the celebrated *Watts,*

GUNSTON *the Juſt, the Generous, and the Young,*

is nothing Comparable to it. The latter only mentions

[1] Watts.

three Qualifications of *one* Perſon who was deceaſed, which therefore could raiſe Grief and Compaſſion but for *One.* Whereas the former, (*our moſt excellent Poet*) gives his Reader a Sort of an Idea of the Death of *Three Perſons*, viz.

— a Wife, a Daughter, and a Siſter,

which is *Three Times* as great a Loſs as the Death of *One*, and conſequently muſt raiſe *Three Times* as much Grief and Compaſſion in the Reader.

I SHOULD be very much ſtraitened for Room, if I ſhould attempt to diſcover even half the Excellencies of this Elegy which are obvious to me. Yet I cannot omit one Obſervation, which is, that the Author has (to his Honour) invented a new Species of Poetry, which wants a Name, and was never before known. His muſe ſcorns to be confin'd to the old Meaſures and Limits, or to obſerve the dull Rules of Criticks;

Nor Rapin *gives her Rules to fly, nor* Purcell *Notes to Sing.*
Watts.

NOW 'tis Pity that ſuch an Excellent Piece ſhould not be dignify'd with a particular Name; and ſeeing it cannot juſtly be called, either *Epic*, *Sapphic*, *Lyric*, or *Pindaric*, nor any other Name yet invented, I preſume it may, (in Honour and Remembrance of the Dead) be called the KITELIC. Thus much in the Praiſe of *Kitelic Poetry.*

IT is certain, that thoſe Elegies which are of our own Growth, (and our Soil ſeldom produces any other ſort of Poetry) are by far the greateſt part, wretchedly Dull and Ridiculous. Now ſince it is imagin'd by many, that our Poets are honeſt, well-meaning Fellows, who do their beſt, and that if they had but ſome Inſtructions how to govern

Fancy with Judgment, they would make indifferent good Elegies; I ſhall here ſubjoin a Receipt for that purpoſe, which was left me as a Legacy, (among other valuable Rarities) by my Reverend Huſband. It is as follows,

A RECEIPT *to make a* New-England Funeral ELEGY.

For the Title of your Elegy. *Of theſe you may have enough ready made to your Hands; but if you ſhould chuſe to make it your ſelf, you muſt be ſure not to omit the words* Ætatis Suæ, *which will Beautify it exceedingly.*

For the Subject of your Elegy. *Take one of your Neighbours who has lately departed this Life; it is no great matter at what Age the Party dy'd, but it will be beſt if he went away ſuddenly, being* Kill'd, Drown'd, *or* Froſe to Death.

Having chose the Perſon, take all his Virtues, Excellencies, &c. *and if he have not enough, you may borrow ſome to make up a ſufficient Quantity: To theſe add his laſt Words, dying Expreſſions,* &c. *if they are to be had; mix all theſe together, and be ſure you ſtrain them well. Then ſeaſon all with a Handful or two of Melancholly Expreſſions, ſuch as,* Dreadful, Deadly, cruel cold Death, unhappy Fate, weeping Eyes, &c. *Have mixed all theſe Ingredients well, put them into the empty Scull of ſome* young Harvard; (*but in Caſe you have ne'er a One at Hand, you may uſe your own,*) *there let them Ferment for the Space of a Fortnight, and by that Time they will be incorporated into a Body, which take out, and having prepared a ſufficient Quantity of double Rhimes, ſuch as* Power, Flower; Quiver, Shiver; Grieve us, Leave us; tell you, excel you; Expeditions, Physicians; Fatigue him, Intrigue him; &c. *you muſt ſpread all upon Paper, and if*

you can procure a Scrap of Latin to put at the End, it will garnish it mightily; then having affixed your Name at the Bottom, with a Mœstus Composuit, *you will have an Excellent Elegy.*

N. B. *This Receipt will serve when a Female is the Subject of your Elegy, provided you borrow a greater Quantity of Virtues, Excellencies,* &c.

SIR,

Your Servant,

SILENCE DOGOOD

P. S. I shall make no other Answer to *Hypercarpus's* Criticism on my last Letter than this, *Mater me genuit, peperit mox filia matrem.*

The N° 49
New-England Courant.

From Monday July 2. to Monday July 9. 1722.

To the Author of the New-England Courant.

SIR, No VIII.

I PREFER the following Abstract from the London Journal to any Thing of my own, and therefore shall present it to your Readers this week without any further Preface.

'WITHOUT Freedom of Thought, there can be no such 'Thing as Wisdom; and no such Thing as publick Liberty, 'without Freedom of Speech; which is the Right of every 'Man, as far as by it, he does not hurt or controul the Right 'of another: And this is the only Check it ought to suffer, and 'the only Bounds it ought to Know.

'This sacred Privilege is so essential to free Governments,

'that the Security of Property, and the Freedom of Speech 'always go together; and in thoſe wretched Countries where 'a Man cannot call his Tongue his own, he can ſcarce call 'any Thing elſe his own. Whoever would overthrow the 'Liberty of a Nation, must begin by ſubduing the Freeneſs 'of Speech; a *Thing* terrible to Publick Traytors.

'This Secret was ſo well known to the Court of *King* '*Charles the Firſt*, that his wicked Miniſtry procured a 'Proclamation, to forbid the People to talk of Parliaments, 'which thoſe Traytors had laid aſide. To aſſert the un-'doubted Right of the Subject, and defend his Majesty's 'legal Prerogative, was called Diſaffection, and puniſhed as 'Sedition. Nay, People were forbid to talk of Religion in 'their Families: For the Prieſts had combined with the 'Miniſters to cook up Tyranny, and ſuppreſs Truth and the 'Law, while the late *King James*, when *Duke of York*, went 'avowedly to Maſs, Men were fined, impriſoned and undone, 'for ſaying he was a Papiſt: And that *King Charles the Second* 'might live more ſecurely a Papiſt, there was an Act of Par-'liament made, declaring it Treaſon to ſay that he was one.

'That Men ought to ſpeak well of their *Governours* is true, 'while *their Governours* deſerve to be well ſpoken of; but to 'do publick Miſchief without hearing of it, is only the Pre-'rogative and Felicity of Tyranny: A free People will be 'ſhewing that they are *ſo*, by their Freedom of Speech.

'The Adminiſtration of Government is nothing elſe but 'the Attendance of the *Truſtees of the People* upon the Intereſt 'and Affairs of the People: And as it is the Part and Buſiness 'of the People, for whoſe Sake alone all publick Matters are, 'or ought to be tranſacted, to ſee whether they be well or ill 'tranſacted; ſo it is the Interest, and ought to be the Ambi-

'tion, of all honeſt Magiſtrates, to have their Deeds openly 'examined, and publickly ſcan'd: Only the *wicked Govern-* '*ours* of Men dread what is ſaid of them; *Audivit* Tiberius '*proba queis lacerabitur, atque* perculſus eſt. The public 'Cenſure was true, elſe he had not felt it bitter.

'Freedom of Speech is ever the Symptom, as well as the 'Effect of a good Government. In old *Rome*, all was left to 'the Judgment and Pleaſure of the People, who examined 'the publick Proceedings with ſuch Diſcretion, & cenſured 'thoſe who adminiſtred them with ſuch Equity and Mild- 'neſs, that in the ſpace of Three Hundred Years, not five 'publick Miniſters ſuffered unjuſtly. Indeed whenever the '*Commons* proceeded to Violence, the great Ones had been 'the Agreſſors.

'GUILT only dreads Liberty of Speech, which drags it 'out of its lurking Holes, and expoſes its Deformity and 'Horrour to Day-light. *Horatius*, *Valerius*, *Cincinnatus*, 'and other vertuous and undeſigning Magiſtrates of the 'Roman Commonwealth, had nothing to fear from Liberty 'of Speech. *Their virtuous* Adminiſtration, the more it was 'examin'd, the more it brightned and gain'd by Enquiry. 'When *Valerius* in particular, was accuſed upon ſome ſlight 'grounds of affecting the Diadem; he who was the firſt 'Miniſter of *Rome*, does not accuſe the People for examining 'his Conduct, but approved his Innocence in a Speech to 'them; and gave ſuch Satisfaction to them, and gained ſuch 'Popularity to himſelf, that they gave him a new Name; '*inde cognomen factum Publicolæ eſt;* to denote that he was 'their Favourite and their Friend — *Latæ deinde leges* — '*Ante omnes de provocatione* ADVERSUS MAGISTRATUS 'AD POPULUM, Livii, lib. 2, Cap. 8.

'But Things afterwards took another Turn. *Rome* with 'the Loſs of its Liberty, loſt alſo its Freedom of Speech; 'then Mens Words began to be feared and watched; and 'then firſt began the *poyſonous* Race of *Informers* baniſhed 'indeed under the righteous Adminiſtration of *Titus*, *Narva*, 'Trajan, Aurelius, &c. but encouraged and enriched under 'the *vile Miniſtry* of *Sejanus*, *Tigillinus*, *Pallas*, and *Cle-* '*ander: Queri libet, quod in ſecreta noſtra non inquirant* '*principes, niſi quos Odimus*, ſays *Pliny* to *Trajan.*

'The beſt Princes have ever encouraged and promoted 'Freedom of Speech; they know that upright Meaſures 'would defend themſelves, and that all upright Men would 'defend them. *Tacitus*, ſpeaking of the Reign of ſome of 'the Princes abovemention'd, ſays with Extaſy, *Rara Tem-* '*porum felicitate, ubi ſentire quæ velis, & quæ ſentias dicere* '*licet:* A bleſſed Time when you might think what you would, 'and ſpeak what you thought.

'I doubt not but old *Spencer* and his *Son*, who were the '*Chief Miniſters* and *Betrayers* of *Edward the Second*, would 'have been very glad to have ſtopped the Mouths of all the 'honeſt Men in *England.* They dreaded to be called *Tray-* '*tors*, becauſe they were *Traytors.* And I dare ſay, Queen '*Elizabeth's Walſingham*, who deſerved no Reproaches, 'feared none. Miſrepreſentation of publick Meaſures is 'eaſily overthrown, by repreſenting publick Meaſures truly; 'when they are honeſt, they ought to be publickly known, 'that they may be publickly commended; but if they are 'knaviſh or pernicious, they ought to be publickly deteſted.

Yours, &c,

SILENCE DOGOOD.

N° 51

From Monday July 16. to Monday July 23. 1722

Corruptio optimi eſt peſſima

To the Author of the New-England Courant.

SIR,

It has been for ſome Time a Queſtion with me, Whether a Commonwealth ſuffers more by hypocritical Pretenders to Religion, or by the openly Profane? But ſome late Thoughts of this Nature, have inclined me to think, that the Hypocrite is the moſt dangerous Perſon of the Two, eſpecially if he ſuſtains a Poſt in the Government, and we conſider his Conduct as it regards the Publick. The firſt Artifice of a *State Hypocrite* is, by a few ſavoury Expreſſions which coſt him Nothing, to betray the beſt Men in his Country into an Opinion of his Goodneſs; and if the Country wherein he lives is noted for the Purity of Religion, he the more eaſily gains his End, and conſequently may more juſtly be expos'd and deteſted. A notoriously profane Perſon in a private Capacity, ruins himſelf, and perhaps the Deſtruction of a few of his Equals; but a publick Hypocrite every day deceives his betters, and makes them the Ignorant Trumpeters of his ſupposed Godlineſs: They take him for a Saint, and paſs him for one, without conſidering that they are (as it were) the Inſtruments of publick Miſchief out of Conſcince, (sic) and ruin their Country for God's sake.

THIS Political Deſcription of a Hypocrite, may (for ought I know) be taken for a new Doctrine by ſome of your Readers; but let them conſider, that *a little Religion, and a little Honeſty, goes a great way in Courts.* 'Tis not incon-

ſiſtent with Charity to diſtruſt a Religious Man in Power, tho' he may be a good Man; he has many Temptations "to propagate *public Deſtruction* for *Perſonal Advantages* and *Security:*" And if his Natural Temper be covetous, and his Actions often contradict his pious Diſcourſe, we may with great Reaſon conclude that he has ſome other Deſign in his Religion beſides barely getting to Heaven. But the moſt dangerous Hypocrite in a Common-Wealth, is one who *leaves the Gospel for the ſake of the Law:* A Man compounded of Law and Gospel, is able to cheat a whole Country with his Religion, and then deſtroy them under *Colour of Law:* And here the Clergy are in great Danger of being deceiv'd, and the People of being deceiv'd by the Clery, until the Monster arrives to ſuch power and Wealth, that he is out of the reach of both, and can oppreſs the People without their own blind Aſſiſtance. And it is a ſad Obſervation, that when the People too late ſee their Error, yet the Clergy ſtill perſiſt in their Encomiums on the Hypocrite; and when he happens to die *for the Good of his Country*, without leaving behind him the Memory of *one good Action*, he ſhall be ſure to have his Funeral Sermon ſtuffed with *Pious Expreſſions* which he dropt at ſuch a Time, and at ſuch a Place, and on ſuch an Occaſion; than which nothing can be more prejudicial to the Intereſt of Religion, nor indeed to the Memory of the Perſon deceaſ'd, The Reaſon of this Blindneſs in the Clergy is, becauſe they are honourably ſupported (as they ought to be) by their People, and ſee nor feel nothing of the Oppreſſion which is obvious and burdenſome to every one elſe.

But this Subject raiſes in me an Indignation not to be born; and if we have had, or are like to have any Instances

of this Nature in *New-England*, we cannot better manifeſt our Love to Religion and the Country, than by ſetting the Deceivers in a true Light, and undeceiving the Deceived, however ſuch Diſcoveries may be repreſented by the ignorant or deſigning Enemies of our Peace and Safety.

I ſhall connlude with a Paragraph or two from an ingenious Political Writer in the *London Journal*, the better to convince your Readers, that Publick Deſtruction may be eaſily carry'd on by *hypocritical Pretenders to Religion.*

"A raging Paſſion for immoderate Gain had made Men "univerſally and intenſely hard-hearted: They were every "where devouring one another. And yet the Directors and "their Accomplices, who were the acting Inſtruments of all "this outrageous Madneſs and Miſchief, ſet up for wonderful "pious Perſons, while they were defying Almighty God, and "plundering Men; and they ſet apart a Fund of Subſcrip-"tions for charitable Uſes; that is, they mercilessly made a "whole People Beggars, and charitably ſupported a few "*neceſſitous* and *worthless* FAVOURITES. I doubt not, "but if the Villany had gone on with Succeſs, they would "have had their Names handed down to Poſterity with En-"comiums; as the Names of other *publick Robbers*, have "been! We have *Hiſtorians* and ODE MAKERS now "living, very proper for ſuch a Task. It is certain, that "moſt People did, at one Time, believe the *Directors* to be "*great and worthy Perſons.* And an honeſt Country Clergy-"man told me laſt Summer, upon the Road, that *Sir John* "was an excellent publick-ſpirited Perſon, for that he had "beautified his Chancel.

"Upon the whole we muſt not judge of one another by "their beſt Actions; ſince the worſt Men do ſome Good,

"and all Men make fine Profeſſions: But we muſt judge of "Men by the whole of their Conduct, and Effects of it. "Thorough Honeſty requires great and long Proof, ſince "many a Man, long thought honeſt, has at length proved a "Knave. And it is from judging without Proof, or falſe "Proof, that Mankind continue Unhappy."

I am, SIR,

your humble Servant,

SILENCE DOGOOD.

[N° 54

New-England Courant

From Monday Auguſt 6. to Monday Auguſt 13. 1722.

Optimè ſocietas hominum ſervabitur. Cic.

To the Author of the New-England Courant.

SIR, [No X.

DISCOURSING lately with an intimate Friend of mine of the lamentable Condition of Widows, he put into my Hands a Book, wherein the ingenious Author propoſes (I think) a certain Method for their Relief. I have often thought of ſome ſuch Project for their Benefit my ſelf, and intended to communicate my Thoughts to the Publick; but to prefer my own Propoſals to what follows, would be rather an Argument of Vanity in me than Good Will to the many Hundreds of my Fellow-Sufferers now in *New-England.*

'We have (ſays he) abundance of Women, who have been 'Bred well, and Liv'd well, Ruin'd in a few Years, and per-'haps, left Young, with a Houſe full of Children, and nothing 'to Support them; which falls generally upon the Wives of 'the Inferior Clergy, or of Shopkeepers and Artificers.

'They marry Wives with perhaps 300*l.* to 1000*l.* Portion, 'and can ſettle no Jointure upon them; either they are Ex-'travagant and Idle, and Waſte it, or Trade decays, or Loſſes, 'or a Thouſand Contingences happen to bring a Tradeſman 'to Poverty, and he Breaks; the Poor Young Woman, it 'may be, has Three or Four Children, and is driven to a 'thouſand ſhifts, while he lies in the *Mint* or *Fryars* under 'the *Dilemma* of a Statute of Bankrupt; but if he Dies, then 'ſhe is abſolutely Undone, unleſs ſhe has Friends to go to.

'Suppoſe an Office to be Erected, to be call'd *An Office* '*of Enſurance for Widows*, upon the following Conditions;

'Two thouſand Women, or their Huſbands for them, 'Enter their Names into a Regiſter to be kept for that pur-'poſe, with the Names, Age, and Trade of their Husbands, 'with the Place of their abode, Paying at the Time of their 'Entring 5*s.* down with 1*s.* 4*d.* per Quarter, which is to the 'ſetting up and ſupport of an Office with Clerks, and all 'proper Officers for the ſame; *for their is no maintaining* '*ſuch without charge;* they receive every one of them a Cer-'tificate, Seal'd by the Secretary of the Office, and Sign'd by 'the Governors, for the Articles hereafter mentioned.

'If any one the Women becomes a Widow, at any Time 'after Six Months from the Date of her Subſcription, upon 'due Notice given, and Claim made at the Office in form, 'as ſhall be directed, ſhe ſhall receive within Six Months 'after ſuch Claim made, the Sum of 500*l.* in Money, without 'any Deductions, ſaving ſome ſmall Fees to the Officers, 'which the Truſtees muſt ſettle, that they may be be (sic) 'known.

'In Conſideration of this, every Woman ſo Subſcribing, 'Obliges her ſelf to Pay as often as any Member of the

'Society becomes a Widow, the due Proportion or Share 'allotted to her to Pay, towards the 500*l.* for the ſaid Widow, 'provided her ſhare does not exceed the Sum of 5*s.*

'No Seamen or Soldiers Wives to be accepted into ſuch a 'Propoſal as this, on the Account before mention'd, becauſe 'the Contingences of their Lives are not equal to others, 'unleſs they will admit this general Exception, ſuppoſing they 'do not Die out of the Kingdom.

'It might alſo be an Exception, That if the Widow, that 'Claim'd, had really, *bona fide*, left her by her Husband to 'her own uſe, clear of all Debts and Legacies, 2000*l.* ſhe 'ſhou'd have no Claim; the Intent being to Aid the Poor, 'not add to the Rich. But there lies a great many Objec- 'tions againſt ſuch an Article: As

'1. It may tempt ſome to forſwear themſelves.

'2. People will order their Wills ſo as to defraud the 'Exception.

'One Exception muſt be made; and that is, Either very 'unequal Matches, as when a Woman of Nineteen Marries 'an old Man of Seventy; or Women who have infirm Hus- 'bands, I mean known and publickly ſo. To remedy which, 'Two things are to be done.

'The Office muſt have moving Officers without doors, 'who ſhall inform themſelves of ſuch matters, and if any ſuch 'Circumſtances appear, the Office ſhould have 14 days time 'to return their Money, and declare their Subſcriptions Void.

'2. No Woman whoſe Husband had any viſible Diſ- 'temper, ſhould claim under a Year after her Subſcription.

'One grand Objection againſt this Propoſal, is, How you 'will oblige People to pay either their Subſcription, or their 'Quarteridge.

'To this I anſwer, *By no Compulsion* (tho' that might 'be perform'd too) but altogether voluntary; only with this 'Argument to move it, that if they do not continue their 'Payments, they loſe the Benefit of their paſt Contributions.

'I know it lies as a fair Objection againſt ſuch a Project 'as this, That the number of Claims are ſo uncertain, That 'no Body knows what they engage in, when they Subſcribe, 'for ſo many may die Annually out of Two Thouſand, as may 'perhaps make my Payment 20 or 25*l.* *per Ann*, and if a 'Woman happen to Pay that for Twenty Years, though ſhe 'receives the 500*l.* at laſt ſhe is a great Loſer; but if ſhe dies 'before her Husband, ſhe has leſſened his Eſtate conſiderably, 'and brought a great Loſs upon him.

'*Firſt*, I ſay to this, That I wou'd have ſuch a Propoſal as 'this be ſo fair and eaſy, that if any Perſon who had Sub-'ſcrib'd found the Payments too high, and the Claims fall too 'often, it ſhou'd be at their Liberty at any Time, upon 'Notice given, to be releaſed and ſtand Oblig'd no longer; 'and if ſo, *Volenti non fit Injuria;* every one knows beſt what 'their own Circumſtances will bear.

'In the next Place, becauſe Death is a Contingency, no 'Man can directly Calculate, and all that Subſcribe must 'take the Hazard; yet that a Prejudice againſt this Notion 'may not be built on wrong Grounds, let's examine a little 'the Probable hazard, and ſee how many ſhall die Annually 'out of 2000 Subſcribers, accounting by the common pro-'portion of Burials, to the number of the Living.

'Sir *William Petty* in his *Political Arithmetick*, by a very 'Ingenious Calculation, brings the Account of Burials in '*London*, to be 1 in 40 Annually, and and proves it by all the 'proper Rules of proportion'd Computation; and I'le take

'my Scheme from thence. If then One in Forty of all the 'People in *England* ſhould Die, that ſuppoſes Fifty to Die 'every Year out of our Two Thousand Subſcribers; and for 'a Woman to Contribute 5*s.* to every one, would certainly be 'to agree to Pay 12*l.* 10*s.* *per Ann.* upon her Husband's Life, 'to receive 500*l.* when he Di'd, and loſe it if ſhe Di'd firſt; 'and yet this wou'd not be a hazard beyond reaſon too great 'for the Gain.

'But I ſhall offer ſome Reaſons to prove this to be impoſ- 'ſible in our Caſe; Firſt, Sir *William Petty* allows the City 'of *London* to contain about a Million of People, and our 'Yearly Bill of Mortality never yet amounted to 25000 in the 'moſt Sickly Years we have had, Plague Years excepted, 'ſometimes but to 20000, which is but One in Fifty: Now it 'is to be conſider'd here, that Children and Ancient People 'make up, one time with another, at least one third of our 'Bills of Mortality; and our *Aſſurances* lies upon none but 'the Midling Age of the People, which is the only age wherein 'Life is any thing ſteady; and if that be allow'd, there can- 'not Die by his Computation, above One in Eighty of ſuch 'People, every Year, but becauſe I would be ſure to leave 'Room for Caſualty, I'le allow one in Fifty ſhall Die out of 'our Number Subſcrib'd.

'Secondly, It muſt be allow'd, that our Payments falling 'due only on the Death of Husbands, this One in Fifty muſt 'not be reckoned upon the Two thouſand; for 'tis to be 'ſuppos'd at leaſt as many Women ſhall die as Men, and then 'there is nothing to Pay; ſo that One in Fifty upon One 'Thouſand, is the moſt that I can ſuppoſe ſhall claim the 'Contribution in a Year, which is Twenty Claims a Year at '5*s.* each, and is 5*l.* *per Ann.* and if a Woman pays this for

'Twenty Year, and claims at laſt, ſhe is Gainer enough, and 'no extraordinary Loſer if she never claims at all: And I 'verily believe any Office might undertake to demand at all 'Adventures not above 6*l. per Ann.* and ſecure the Sub-'ſcriber 500*l.* in caſe she come to claim as a Widow.

I would leave this to the Conſideration of all who are concern'd for their own or their Neighbour's Temporal Happineſs; and I am humbly of Opinion, that the Country is ripe for many ſuch *Friendly Societies*, whereby every Man might help another, without any Diſſervice to himſelf. We have many charitable Gentlemen who Yearly give liberally to the Poor, and where can they better beſtow their Charity than on thoſe who become ſo by Providence, and for ought they know on themſelves. But above all, the Clergy have the most need of coming into ſome ſuch Project as this. They as well as poor Men (according to the Proverb) generally abound in Children; and how many Clergymen in the Country are forc'd to labour in their Fields, to keep themſelves in a Condition above Want? How then shall they be able to leave any thing to their forſaken, dejected, & almoſt forgotten Wives and Children. For my own Part, I have nothing left to live on, but Contentment and a few Cows; and tho' I cannot expect to be reliev'd by this Project, yet it would be no ſmall Satisfaction to me to ſee it put in Practice for the Benefit of others.

I am, SIR, &c.

SILINCE DOGOOD.

The [N° 55
New-England Courant.

From Monday August 13. to Monday Auguſt 20. 1722.

Neque licitum interea eſt meam amicam viſere.

To the Author of the New-England Courant.

SIR, [No XI.

FROM a natural Compaſſion to my Fellow-Creatures, I have ſometimes been betray'd into Tears at the Sight of an Object of Charity, who by a bear Relation of his Circumſtances, ſeem'd to demand the aſſiſtance of thoſe about him. The following Petition repreſents in ſo lively a Manner the forlorn State of a Virgin well ſtricken in Years and Repentance, that I cannot forbear publiſhing it at this Time, with ſome Advice to the Petitioner.

To Mrs. Silence Dogood.

The Humble Petition of Margaret Aftercaſt,

SHEWETH,

"1. THAT your Petitioner being puff'd up in her younger "Years with a numerous Train of Humble Servants, had the "Vanity to think, that her extraordinary Wit and Beauty "would continually recommend her to the Eſteem of the "Gallants; and therefore as ſoon as it came to be publickly "known that any Gentleman addreſs'd her, he was imme-"diately diſcarded.

"2. THAT ſeveral of your Petitioners Humble Servants, "who upon their being rejected by her, were, to all Appear-"ance in a dying Condition, have ſince recover'd their "Health, and been ſeveral Years married, to the great Sur-

"prize and Grief of your Petitioner, who parted with them "upon no other Conditions, but that they ſhould die or run "diſtracted for her, as ſeveral of them faithfully promis'd "to do.

"3. THAT your Petititioner finding her ſelf diſappointed "in and neglected by her former Adorers, and no new Offers "appearing for ſome Years paſt, ſhe has been induſtriouſly "contracting Acquaintance with ſeveral Families in Town "and Country, where any young Gentlemen or Widowers "have reſided, and endeavour'd to appear as converſable "as poſſible before them: She has likewiſe been a ſtrict "Obſerver of the Faſhion, and always appear'd well dreſs'd. "And the better to reſtore her decay'd Beauty, ſhe has con- "ſum'd above Fifty Pound's Worth of the moſt approved "*Cosmeticks*. But all won't do.

"YOUR Petitioner therefore moſt humbly prays, That "you would be pleaſed to form a Project for the Relief of "all thoſe penitent Mortals of the fair Sex, that are like to "be puniſh'd with their Virginity until old Age, for the Pride "and Inſolence of their Youth.

"And your Petitioner (as in Duty bound) ſhall ever pray, "&c. *Margaret Aſtercaſt*"

WERE I endow'd with the Faculty of Matchmaking, it ſhould be improv'd for the Benefit of Mrs. *Margaret* and others in her Condition: but ſinçe my extream Modeſty and Taciturnity, forbids an Attempt of this Nature, I would adviſe them to relieve themſelves in a Method of *Friendly Society*; and that already publiſh'd for Widows, I conceive would be a very proper Propoſal for them, whereby every ſingle Woman, upon full Proof given of her continuing a

Virgin for the Space of Eighteen Years, (dating her Virginity from the Age of Twelve,) should be entituled to 500 *l.* in ready Caſh.

BUT then it will be neceſsary to make the following Exceptions.

1. THAT no Woman shall be admitted into the Society after she is Twenty Five Years old, who has made a Practice of entertaining and diſcarding Humble Servants, without ſufficient Reaſon for ſo doing, until ſhe has manifested her Repentance in Writing under her Hand.

2. NO Member of the Society who has declar'd before two credible Witneſſes, *That it is well known ſhe has refus'd ſeveral good Offers ſince the Time of her Subſcribing*, ſhall be entituled to the 500 *l.* when she comes of Age; that is to ſay, *Thirty Years.*

3. NO Woman, who after claiming and receiving, has had the good Fortune to marry, ſhall entertain any Company with Encomiums on her Husband, above the Space of one Hour at a Time, upon Pain of returning one half the Money into the Office, for the firſt Offence; and upon the ſecond Offence to return the Remainder. *I am, SIR,*

Your Humble Servant,

SILENCE DOGOOD.

[No 58

From Monday September 3. to Monday September 10. 1722.

Quod eſt in corde ſobrii, eſt in ore ebrii.

To the Author of the New-England Courant.

SIR, [No XII.

IT is no unprofitable tho' unpleasant Purſuit, diligently to inſpect and conſider the Manners & Converſation of Men,

who, inſenſible of the greateſt Enjoyments of humane Life, abandon themſelves to Vice from a falſe Notion of *Pleaſure* and *good Fellowſhip*. A true and natural Repreſentation of any Enormity, is often the beſt Argument againſt it and Means of removing it, when the moſt ſevere Reprehenſions alone, are found ineffectual.

I WOULD in this Letter improve the little Obſervation I have made on the Vice of *Drunkeneſs*, the better to reclaim the *good Fellows* who uſually pay the Devotions of the Evening to *Bacchus*.

I DOUBT not but *moderate Drinking* has been improv'd for the Diffuſion of Knowledge among the ingenious Part of Mankind, who want the Talent of a ready Utterance, in order to diſcover the Conceptions of their Minds in an entertaining and intelligible Manner. 'Tis true, drinking does not *improve* our Faculties, but it enables us to uſe them; and therefore I conclude, that much Study and Experience, and a little Liquor, are of abſolute Neceſſity for ſome Tempers, in order to make them accompliſh'd Orators. *Dic. Ponder* diſcovers an excellent Judgment when he is inſpir'd with a Glaſs or two of *Claret*, but he paſſes for a Fool among thoſe of ſmall Obſervation, who never ſaw him the better for Drink. And here it will not be improper to obſerve, That the moderate Uſe of Liquor, and a well plac'd and well regulated Anger, often produce this ſame Effect; and ſome who cannot ordinarily talk but in broken Sentences and falſe Grammar, do in the Heat of Paſſion expreſs themſelves with as much Eloquence as Warmth. Hence it it is that my own Sex are generally the moſt eloquent, because the moſt paſſionate. "It has been ſaid in the Praiſe of ſome "Men," (ſays an ingenious Author,) "that they could talk

whole Hours together upon any thing; but it muſt be owned to the Honour of the other Sex, that there are many among them who can talk whole Hours together upon Nothing. I have known a Woman branch out into a long extempore Diſſertation on the Edging of a Petticoat, and chide her Servant for breaking a China Cup, in all the Figures of Rhetorick."

BUT after all it muſt be conſider'd, that no Pleaſure can give Satisfaction or prove advantageous to a *reaſonable Mind*, which is not attended with the *Reſtraints of Reaſon*. Enjoyment is not to be found by Exceſs in any ſenſual Gratification; but on the contrary, the immoderate Cravings of the Voluptuary, are always ſucceeded with Loathing and a palled Apetite. What Pleaſure can the Drunkard have in the Reflection, that, while in his Cups, he retain'd only the Shape of a Man, and acted the Part of a Beaſt; or that from reaſonable Diſcourſe a few Minutes before, he deſcended to Impertinence and Nonſense?

I CANNOT pretend to account for the different Effects of Liquor on Perſons of different Diſpoſitions, who are guilty of Exceſs in the Uſe of it. 'Tis ſtrange to ſee Men of a regular Converſation become rakiſh and profane when intoxicated with Drink, and yet more ſurprizing to obſerve, that ſome who appear to be the moſt profligate Wretches when ſober, become mighty religious in their Cups, and will then, and at no other Time addreſs their Maker, but when they are deſtitute of Reaſon, and actually affronting him. Some ſhrink in the Wetting, and others ſwell to ſuch an unuſual Bulk in their Imaginations, that they can in an Inſtant underſtand all Arts and Sciences, by the liberal Education of a little vivyfying *Punch*, or a ſufficient Quantity of other exhilerating Liquor.

AND as the Effects of Liquor are various, ſo are the Characters given to its Devourers. It argues ſome Shame in the Drunkards themſelves, in that they have invented numberleſs Words and Phraſes to cover their Folly, whoſe proper Significations are harmleſs, or have no Signification at all. They are ſeldom known to be *drunk*, tho they are very often *boozey, cogey, tipſey, ſox'd, merry, mellow, ſuddl'd, groatable, Conſoundedly cut, See two Moons*, are *Among the Philiſtines, In a very good Humour, See the Sun*, or, *The Sun has ſhone upon them*; they *Clip the King's Engliſh*, are *Almoſt froze, Feavouriſh, In their Altitudes, Pretty well enter'd*, &c. In ſhort, every Day produces ſome new Word or Phraſe which might be added to the Vocabulary of the *Tiplers*: But I have choſe to mention theſe few, becauſe if at any Time a Man of Sobriety and Temperance happens to *cut himſelf conſoundedly*, or is *almoſs froze*, or *feavouriſh*, or accidentally *ſees the Sun*, &c. he may eſcape the Imputation of being *drunk*, when his Miſfortune comes to be related.

I am SIR,

Your Humble Servant,

SILENCE DOGOOD.

[N° 60

From Monday September 17. to Monday September 24. 1722.

To the Author of the New-England Courant.

SIR, No XIII.

IN Perſons of a contemplative Diſpoſition, the moſt indifferent Things provoke the Exerciſe of the Imagination; and the Satisfactions which often ariſe to them thereby, are a certain Relief to the Labour of the Mind (when it has been

intenſely fix'd on more ſubſtantial Subjects) as well as to that of the Body.

IN one of the late pleaſant Moon-light Evenings, I ſo far indulg'd in my ſelf the Humour of the Town in walking abroad, as to continue from my Lodgings two or three Hours later than uſual, & was pleaſ'd beyond Expectation before my Return. Here I found various Company to obſerve, and various Diſcourſe to attend to. I met indeed with the common Fate of *Liſteners*, who *hear no good of themſelves*,) but from a Conſciouſneſs of my Innocence, receiv'd it with a Satisfaction beyond what the Love of Flattery and the Daubings of a Paraſite could produce. The Company who rally'd me were about Twenty in Number, of both Sexes; and tho' the *Confuſion of Tongues* (like that of *Babel*) which always happens among ſo many impetuous Talkers, render'd their Diſcourſe not ſo intelligible as I could wiſh, I learnt thus much, That one of the Females pretended to know me, from ſome Diſcourſe ſhe had heard at a certain Houſe before the Publication of one of my Letters; adding, *That I was a Perſon of an ill Character, and kept a criminal Correſpondence with a Gentleman who aſſisted me in Writing.* One of the Gallants clear'd me of this random Charge, by ſaying, *That tho' I wrote in the Character of a Woman, he knew me to be a Man; But*, continu'd he, *he has more need of endeavouring a Reformation in himſelf, than ſpending his Wit in ſatyrizing others.*

I HAD no ſooner left this Set of Ramblers, but I met a Crowd of *Tarpolins* and their Doxies, link'd to each other by the Arms, who ran (by their own Account) after the Rate of *Six Knots an Hour*, and bent their Courſe towards the *Common.* Their eager and amorous Emotions of Body,

occaſion'd by taking their Miſtreſſes *in Tow*, they call'd *wild Steerage*: And as a Pair of them happen'd to trip and come to the Ground, the Company were call'd upon to *bring to*, for that *Jack* and *Betty* were *founder'd*. But this Fleet were not leſs comical or irregular in their Progreſs than a Company of Females I ſoon after came up with, who, by throwing their Heads to the Right and Left, at every one who paſs'd by them, I concluded came out with no other Deſign than to revive the Spirit of Love in Diſappointed Batchelors, and expoſe themſelves to Sale to the firſt Bidder.

BUT it would take up too much Room in your Paper to mention all the Occaſions of Diverſion I met with in this Night's Ramble. As it grew later, I obſerved, that many penſive Youths with down looks and a ſlow Pace, would be ever now and then crying out on the Cruelty of their Miſtreſſes; others with a more rapid Pace and chearful Air, would be ſwinging their Canes, and clapping their Cheeks, and whiſpering at certain Intervals, *I'm certain I ſhall have her! This is more than I expected! How charmingly ſhe talks!* &c.

UPON the whole I conclude, That our *Night-Walkers* are a Set of People, who contribute very much to the Health and Satisfaction of thoſe who have been fatigu'd with Buſineſs or Study, and occaſionally obſerve their pretty Geſtures and Impertinencies. But among Men of Buſineſs, the *Shoemakers*, and other Dealers in Leather, are doubly oblig'd to them, inaſmuch as they exceedingly promote the Conſumption of their Ware: And I have heard of a *Shoemaker*, who being ask'd by a noted Rambler, *Whether he could tell how long her Shoes would laſt*; very prettily anſwer'd, *That he knew how many Days ſhe might wear them, but not how*

many Nights; because they were then put to a more violent and irregular Service than when ſhe employ'd her ſelf in the common Affairs of the Houſe.

I am, SIR,

Your Humble Servant,

SILENCE DOGOOD.

The [N° 62

New-England Courant.

From Monday October 1. to Monday October 8. 1722.

Earum cauſarum quanta quaque valeat, videamus. — CICERO.

To the Author of the New-England Courant.

SIR, No. XIV.

IT often happens, that the moſt zealous Advocates for any Cauſe find themſelves diſappointed in the firſt Appearance of Succeſs in the Propagation of their Opinion; and the Diſappointment appears unavoidable, when their eaſy Proſelytes too ſuddenly ſtart into Extreams, and are immediately fill'd with Arguments to invalidate their former Practice. This creates a Suſpicion in the more conſiderate Part of Mankind, that thoſe who are thus *given to Change*, neither *fear God*, nor *honour the King*. In Matters of Religion, he that alters his Opinion on a *religious Account*, muſt certainly go thro' much Reading, hear many Arguments on both Sides, and undergo many Struggles in his Conſcience, before he can come to a full Reſolution: Secular Intereſt will indeed make quick Work with an immoral Man, eſpecially if, notwithſtanding the Alteration of his Opinion, he can with any Appearance of Credit retain his Immorality. But, by this Turn of Thought I would not be ſuſpected of Uncharitable-

neſs to thoſe Clergymen at *Connecticut*, who have lately embrac'd the Eſtabliſh'd Religion of our Nation, ſome of whom I hear made their Profeſſions with a Serioufneſs becoming their Order: However, ſince they have deny'd the Validity of Ordination by the Hands of *Preſbyters*, and conſequently their Power of Adminiſtring the *Sacraments*, &c. we may juſtly expect a ſuitable Manifeſtation of their Repentance for invading the *Prieſts* Office, and living ſo long in a *Corah*-like Rebellion. All I would endeavour to ſhew is, That an indiſcreet Zeal for ſpreading an Opinion, hurts the Cauſe of the Zealot. There are too many blind Zealots among every Denomination of Chriſtians; and he that propagates the Goſpel among *Rakes* and *Beaus* without reforming them in their Morals, is every whit as ridiculous and impolitick as a Statesman who makes Tools of Ideots and Tale-Bearers.

Much to my preſent Purpoſe are the Words of two Ingenious Authors of the *Church of England*, tho' in all Probability they were tainted with *Whiggiſh* Principles;

'I would (ſays one) have every zealous Man examine his 'Heart throughly, and, I believe, he will often find that what 'he calls a Zeal for his Religion, is either Pride, Intereſt or 'Ill-nature. A Man who differs from another in Opinion 'ſets himſelf above him in his own Judgment, and in ſeveral 'Particulars pretends to be the wiſer Perſon. This is a great 'Provocation to the Proud Man, and gives a keen Edge to 'what he calls his Zeal. And that this is the Caſe very often, 'we may obſerve from the Behaviour of ſome of the moſt 'Zealous for Orthodoxy, who have often great Friendſhips 'and Intimacies with vicious immoral Men, provided they 'do but agree with them in the ſame Scheme of Belief. The 'Reaſon is, becauſe the vicious Believer gives the Precedency

'to the virtuous Man, and allows the good Christian to be 'the worthier Perſon, at the ſame Time that he cannot come 'up to his Perfections. This we find exemplified in that 'trite Paſſage which we ſee quoted in almoſt every Syſtem 'of Ethicks, tho' upon another Occaſion;

—— Video meliore proboque
Deteriora ſequor —

'On the contrary, it is certain if our Zeal were true and genu-'ine, we ſhould be much more angry with a Sinner than a 'Heretick, ſince there are ſeveral Caſes which may excuſe 'the latter before his great Judge, but none which can excuſe 'the former.

'I have (ſays another) found by Experience, that it is im-'poſſible to talk diſtinctly without defining the Words of 'which we make uſe. There is not a Term in our Language 'which wants Explanation ſo much as the Word *Church.* 'One would think when People utter it, they ſhould have in 'their Minds Ideas of Virtue and Religion; but that impor-'tant Monoſyllable drags all the other Words in the Lan-'guage after it, and it is made uſe of to expreſs both Praiſe 'and Blame, according to the Character of him who ſpeaks 'it. By this means it happens, that no one knows what his 'Neighbour means when he ſays ſuch a one is for or againſt 'the Church. It has happen'd that he who is ſeen every 'Day at Church, has not been counted in the Eye of the 'World a Churchman; and he who is very zealous to oblige 'every one to frequent it but himſelf, has been a very good 'Son of the Church. This Præ-poſſeſſion is the beſt Handle 'imaginable for Politicians to make uſe of, for managing the 'Loves and Hatreds of Mankind to the Purpoſes to which

'they would lead them. But this is not a Thing for Fools 'to meddle with, for they only bring Diſesteem upon thoſe 'whom they attempt to ſerve, when they unſkilfully pronounce 'Terms of Art. I have obſerved great Evils ariſe from this 'Practice, and not only the Cauſe of Piety, but alſo the ſecu-'lar Intereſt of Clergymen, has extreamly ſuffered by the 'general unexplained Signification of the Word *Church.*'

I am, SIR,

Your Humble Servant,

SILENCE DOGOOD.

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4. EDITORIAL PREFACE (M. H. S.)

TO

THE NEW ENGLAND COURANT No. 80[1]

From Monday, February 4, to Monday, February 11, 1723

The late Publisher of this Paper, finding so many Inconveniences would arise by his carrying the Manuscripts and publick News to be supervis'd by the Secretary, as to render

[1] "Boston: Printed and sold by Benjamin Franklin in Queen Street, where Advertisements are taken in."

The *Courant* was conducted in such a reckless fashion by the Hell-fire Club that the Council declared that the tendency of the paper was to mock religion, and to disturb the peace and good order of the Province. James Franklin the publisher was therefore strictly forbidden "to print or publish the *New England Courant* or any other pamphlet or paper of the like nature, except it be first supervised by the Secretary of the Province." It was thereupon decided that Benjamin Franklin should appear as the sole publisher. His apprenticeship indentures were cancelled and new indentures were signed and concealed. Under these circumstances he entered upon his first editorial duties, and his introductory preface shows that the *Courant* had sustained no loss by its change of management. — ED.

his carrying it on unprofitable, has intirely dropt the Undertaking. The present Publisher having receiv'd the following Piece, desires the Readers to accept of it as a Preface to what they may hereafter meet with in this Paper.

> Non ego mordaci distrinxi Carmine quenquam
> Nulla vonenato Litera onista Joco est.

Long has the Press groaned in bringing forth an hateful, but numerous Brood of Party Pamphlets, malicious Scribbles, and Billinsgate Ribaldry. The Rancour and bitterness it has unhappily infused into Men's minds, and to what a Degree it has sowred and leaven'd the Tempers of Persons formerly esteemed some of the most sweet and affable, is too well known here, to need any further Proof or Representation of the Matter.

No generous and impartial Person then can blame the present Undertaking, which is designed purely for the Diversion and Merriment of the Reader. Pieces of Pleasancy and Mirth have a secret Charm in them to allay the Heats and Tumours of our Spirits, and to make a Man forget his restless Resentments. They have a strange Power to tune the harsh Disorders of the Soul, and reduce us to a serene and placid State of Mind.

The main Design of this Weekly Paper will be to entertain the Town with the most comical and diverting Incidents of Humane Life, which in so large a Place as *Boston* will not fail of a universal Exemplification: Nor shall we be wanting to fill up these Papers with a grateful Interspersion of more serious Morals which may be drawn from the most ludicrous and odd Parts of Life.

As for the Author, that is the next Question. But tho'

we profess ourselves ready to oblige the ingenious and courteous Reader with most Sorts of Intelligence, yet here we beg a Reserve. Nor will it be of any Manner of Advantage either to them or to the Writers, that their names should be published; and therefore in this Matter we desire the Favour of you to suffer us to hold our Tongues: Which tho' at this Time of Day it may sound like a very uncommon Request, yet it proceeds from the very Hearts of your Humble Servants.

By this Time the Reader perceives that more than one are engaged in the present Undertaking. Yet is there one Person, an Inhabitant of this Town of *Boston*, whom we honour as a Doctor in the Chair, or a perpetual Dictator.

The Society had design'd to present the Publick with his Effigies, but that the Limner, to whom he was presented for a Draught of his Countenance, descryed (and this he is ready to offer upon Oath) Nineteen Features in his Face, more than ever he beheld in any Humane Visage before; which so raised the Price of his Picture, that our Master himself forbid the Extravagance of coming up to it. And then besides, the Limner objected a Schism in his face, which splits it from his Forehead in a strait Line down to his chin, in such sort, that Mr. Painter protests it is a double Face, and he'll have *Four Pounds* for the Pourtraiture. However, tho' this double Face has spoilt us of a pretty Picture, yet we all rejoiced to see old *Janus* in our Company.

There is no Man in *Boston* better qualified than old *Janus* for a *Couranteer*, or if you please, an *Observator*, being a Man of such remarkable *Opticks*, as to look two ways at once.

As for his Morals, he is a chearly Christian, as the Country

Phrase expresses it. A Man of good Temper, courteous Deportment, sound Judgment; a mortal Hater of Nonsense, Foppery, Formality, and endless Ceremony.

As for his club, they aim at no greater Happiness or Honour, than the Publick be made to know, that it is the utmost of their Ambition to attend upon and do all imaginable good Offices to good old *Janus* the Couranteer, who is and always will be the Readers humble Servant.

P.S. Gentle Readers, we design never to let a Paper pass without a Latin Motto if we can possibly pick one up, which carries a Charm in it to the Vulgar, and the learned admire the pleasure of Construing. We should have obliged the World with a Greek scrap or two, but the Printer has no Types, and therefore we intreat the candid Reader not to impute the defect to our Ignorance, for our Doctor can say all the *Greek* Letters by heart.

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5. TO SIR HANS SLOANE[1] (B. M.)

[London] June 2, 1725

Sir

Having lately been in the Nothern (sic) Parts of America I have brought from thence a Purse made of the Stone Asbestus, a Piece of the Stone, and a Piece of Wood, the Pithy Part of which is of the same Nature, and call'd by the In-

[1] First printed in the *Gentleman's Magazine*, September, 1780. The original is in the Sloane Collection, British Museum (Sl. 4047, f. 347). Franklin refers to this asbestos purse in his autobiography; he says: "Sir Hans Sloane came to see me, and invited me to his house in Bloomsbury Square, showed me all his curiosities and persuaded me to add that to the number; for which he paid me handsomely." From this letter it would appear that Franklin required but little persuasion. — ED.

habitants, Salamander Cotton. As you are noted to be a Lover of Curiosities, I have inform'd you of these; and if you have any Inclination to purchase them, or see 'em, let me know your Pleasure by a Line directed for me at the Golden Fan in Little Britain, and I will wait upon you with them. I am, Sir

Your most humble Servant
Benjamin Franklin

P.S. I expect to be out of Town in 2 or 3 Days, and therefore beg an immediate Answer: —

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6. JOURNAL OF A VOYAGE FROM LONDON TO PHILADELPHIA [1] (L. C.)

Journal of Occurrences in my Voyage to Philadelphia on board the Berkshire, Henry Clark, Master, from London

Friday, July 22d, 1726. — Yesterday in the afternoon we left London, and came to an anchor off Gravesend about eleven at night. I lay ashore all night, and this morning took a walk up to the Windmill Hill, from whence I had an agreeable prospect of the country for above twenty miles round, and two or three reaches of the river, with ships and boats sailing both up and down, and Tilbury Fort on the other side, which commands the river and passage to London. This Gravesend is a *cursed biting* place; the chief dependence of the people being the advantage they make of imposing upon strangers. If you buy anything of them, and give half what they ask, you pay twice as much as the thing is worth. Thank God, we shall leave it to-morrow.

[1] From a transcript in the Library of Congress.

Saturday, July 23. — This day we weighed anchor and fell down with the tide, there being little or no wind. In the afternoon we had a fresh gale, that brought us down to Margate, where we shall lie at anchor this night. Most of the passengers are very sick. Saw several porpoisies, &c.

Sunday, July 24th. — This morning we weighed anchor, and coming to the Downs, we set our pilot ashore at Deal, and passed through. And now, whilst I write this, sitting upon the quarterdeck, I have methinks one of the pleasantest scenes in the world before me. 'Tis a fine, clear day, and we are going away before the wind with an easy, pleasant gale. We have near fifteen sail of ships in sight, and I may say in company. On the left hand appears the coast of France at a distance, and on the right is the town and castle of Dover, with the green hills and chalky cliffs of England, to which we must now bid farewell. Albion, farewell!

Monday, July 25. — All the morning calm. After noon sprung up a gale at East; blew very hard all night. Saw the isle of Wight at a distance.

Tuesday, July 26th. — Contrary winds all day, blowing pretty hard. Saw the Isle of Wight again in the evening.

Wednesday, July 27. — This morning, the wind blowing very hard at West, we stood in for the land, in order to make some harbour. About noon we took on board a pilot out of a fishing shallop, who brought the ship into Spithead, off Portsmouth. The captain, Mr. Denham, and myself went on shore, and, during the little time we stayed, I made some observations on the place.

Portsmouth has a fine harbour. The entrance is so narrow, that you may throw a stone from Fort to Fort; yet it is near ten fathom deep, and bold close to; but within there

is room enough for five hundred, or, for aught I know, a thousand sail of ships. The town is strongly fortified, being encompassed with a high wall and a deep and broad ditch, and two gates, that are entered over drawbridges; besides several forts, batteries of large cannon, and other outworks, the names of which I know not, nor had I time to take so strict a view as to be able to describe them. In war time, the town has a garrison of 10,000 men; but at present 'tis only manned by about 100 Invalids. Notwithstanding the English have so many fleets of men-of-war at sea at this time,[1] I counted in this harbour above thirty sail of 2nd, 3rd, and 4th Rates, that lay by unrigged, but easily fitted out upon occasion, all their masts and rigging lying marked and numbered in storehouses at hand. The King's yards and docks employ abundance of men, who, even in peace time, are constantly building and refitting men-of-war for the King's Service.

Gosport lies opposite to Portsmouth, and is near as big, if not bigger; but, except the fort at the mouth of the harbour, and a small outwork before the main street of the town, it is only defended by a mud wall, which surrounds it, and a trench or dry ditch of about ten feet depth and breadth. Portsmouth is a place of very little trade in peace time; it depending chiefly on fitting out men-of-war. Spithead is the place where the Fleet commonly anchor, and is a very good riding-place. The people of Portsmouth tell strange stories of the severity of one *Gibson*,[2] who was gov-

[1] One gone to the Baltic, one to the Mediterranean, and one to the W. Indies.

[2] Sir John Gibson (1637–1717) was lieutenant-governor of Portsmouth, 1689–1717. — ED.

ernor of this place in the Queen's time, to his soldiers, and show you a miserable dungeon by the town gate, which they call *Johnny Gibson's Hole*, where, for trifling misdemeanors, he used to confine his soldiers till they were almost starved to death. It is a common maxim, that, without severe discipline, 'tis impossible to govern the licentious rabble of soldiery. I own, indeed, that if a commander finds he has not those qualities in him that will make him beloved by his people, he ought, by all means, to make use of such methods as will make them fear him, since one or the other (or both) is absolutely necessary; but Alexander and Cæsar, those renowned generals, received more faithful service, and performed greater actions, by means of the love their soldiers bore them, than they could possibly have done, if, instead of being beloved and respected, they had been hated and feared by those they commanded.

Thursday, July 28. — This morning we came on board, having lain on shore all night. We weighed anchor and with a moderate gale, stood in for Cowes, in the Isle of Wight, and came to an anchor before the town about eleven o'clock. Six of the passengers went on shore, and diverted themselves till about 12 at night; and then got a boat, and came on board again, expecting to sail early in the morning.

Friday, July 29. — But the wind continuing adverse still, we went ashore again this morning, and took a walk to Newport, which is about four miles distant from Cowes, and is the metropolis of the island. Thence we walked to Carisbrooke, about a mile further, out of curiosity to see that castle, which King Charles the First was confined in; and so returned to Cowes in the afternoon, and went on board in expectation of sailing.

Cowes is but a small town, and lies close to the seaside, pretty near opposite to Southampton on the main shore of England. It is divided into two parts by a small river that runs up within a quarter of a mile of Newport, and is distinguished by East and West Cowes. There is a fort built in an oval form, on which there are eight or ten guns mounted for the defence of the road. They have a post-office, a custom-house, and a chappel of ease. And a good harbour for ships to ride in in easterly and westerly winds.

All this afternoon I spent agreeably enough at the draft-board. It is a game I much delight in; but it requires a clear head, and undisturbed; and the persons playing, if they would play well, ought not much to regard the *consequence* of the game, for that diverts and withdraws the attention of the mind from the game itself, and makes the player liable to make many false open moves; and I will venture to lay it down for an infallible rule, that, if two persons *equal* in judgment play for a considerable sum, he that loves money most shall lose; his anxiety for the success of the game confounds him. Courage is almost as requisite for the good conduct of this game as in a real battle; for, if the player imagines himself opposed by one that is much his superior in skill, his mind is so intent on the defensive part, that an advantage passes unobserved.

Newport makes a pretty prospect enough from the hills that surround it; (for it lies down in a bottom). The houses are beautifully intermixed with trees, and a tall, old-fashioned steeple rises in the midst of the town, which is very ornamental to it. The name of the church I could not learn; but there is a very neat market-house, paved with square stone, and consisting of eleven arches. There are several

pretty handsome streets, and many well-built houses and shops, well stored with goods. But I think Newport is chiefly remarkable for oysters, which they send to London and other places, where they are very much esteemed, being thought the best in England. The oyster-merchants fetch them, as I am informed, from other places, and lay them upon certain beds in the river (the water of which is it seems excellently adapted for that purpose) a-fattening; and when they have lain a suitable time they are taken up again, and made fit for sale.

When we came to Carisbrooke, which, as I said before, is a little village about a mile beyond Newport, we took a view of an ancient church that had formerly been a priory in Romish times, and is the first church, or the mother-church, of the island. It is an elegant building, after the old Gothic manner, with a very high tower, and looks very venerable in its ruins. There are several ancient monuments about it; but the stone of which they are composed is of such a soft, crumbling nature, that the inscriptions are none of them legible. Of the same stone are almost all the tombstones, &c., that I observed in the island.

From this church, (having crossed over the brook that gives the name to the village, and got a little boy for a guide,) we went up a very steep hill, through several narrow lanes and avenues, till we came to the castle gate. We entered over the ditch (which is now almost filled up, partly by the ruins of the mouldering walls that have tumbled into it, and partly by the washing down of the earth from the hill by the rains,) upon a couple of brick arches, where I suppose formerly there was a drawbridge. An old woman who lives in the castle, seeing us strangers walk about, sent and offered

to show us the rooms if we pleased, which we accepted. This castle, as she informed us, has for many years been the seat of the governors of the island; and the rooms and hall, which are very large and handsome, with high, arched roofs, have all along been kept handsomely furnished, every succeeding governor buying the furniture of his predecessor; but, Cadogan, the last governor, who succeeded General Webb,[1] refusing to purchase it, Webb stripped it clear of all, even the hangings, and left nothing but bare walls. The floors are several of them of plaster of Paris, the art of making which, the woman told us, was now lost.

The castle stands upon a very high and steep hill, and there are the remains of a deep ditch round it; the walls are thick, and seemingly well contrived; and certainly it has been a very strong hold in its time, at least before the invention of great guns. There are several breaches in the ruinous walls, which are never repaired, (I suppose they are purposely neglected,) and the ruins are almost everywhere overspread with ivy. It is divided into the lower and the upper castle, the lower enclosing the upper, which is of a round form, and stands upon a promontory, to which you must ascend by near an hundred stone steps; this upper castle was designed for a retreat in case the lower castle should be won, and is the least ruinous of any part except the stairs before mentioned, which are so broken and decayed, that I was almost afraid to come down again when I was up, they being but narrow, and no rails to hold by.

From the battlements of this upper castle, (which they

[1] General John Richmond Webbe was governor of the Isle of Wight August 1710 to September 1716. He was succeeded by William, first Earl Cadogan. — ED.

call the *Coop*,) you have a fine prospect of the greatest part of the island, of the sea on one side, of Cowes road at a distance, and of Newport as it were just below you. There is a well in the middle of the Coop, which they called the bottomless well, because of its great depth; but it is now half filled up with stones and rubbish, and is covered with two or three loose planks; yet a stone, as we tried, is near a quarter of a minute in falling before you hear it strike. But the well that supplies the inhabitants at present with water is in the lower castle, and is thirty fathoms deep. They draw their water with a great wheel, and with a bucket that holds near a barrel. It makes a great sound if you speak in it, and echoed the flute which we played over it very sweetly. There are but seven pieces of ordnance mounted upon the walls, and those in no very good order; and the old man, who is the gunner and keeper of the castle, and who sells ale in a little house at the gate, has in his possession but six muskets, (which hang up at his wall) and one of them wants a lock. He told us that the castle, which had now been built 1203 years, was first founded by one Whitgert, a Saxon, who conquered the island, and that it was called Whitgertsburg for many ages.

That particular piece of building, which King Charles lodged in during his confinement here, is suffered to go entirely to ruin, there being nothing standing but the walls. The island is about sixty miles in circumference, and produces plenty of corn and other provisions, and wool as fine as Cotswold; its militia having the credit of equalling the soldiery, and being the best disciplined in England. —— was once, in King William's time, entrusted with the government of this island. At his death it appeared he was a great

villain, and a great politician; there was no crime so damnable which he would stick at in the execution of his designs, and yet he had the art of covering all so thick, that with almost all men in general, while he lived, he passed for a saint. What surprized me was, that the silly old fellow, the keeper of the castle, who remembered him governor, should have so true a notion of his character as I perceived he had. In short, I believe it is impossible for a man, though he has all the cunning of a devil, to live and die a villain, and yet conceal it so well as to carry the name of an honest fellow to the grave with him, but some one, by some accident or other, shall discover him. Truth and sincerity have a certain distinguishing native lustre about them, which cannot be perfectly counterfeited; they are like fire and flame, that cannot be painted.

The whole castle was repaired and beautified by Queen Elizabeth, and strengthened by a breastwork all round without the walls, as appears by this inscription in one or two places upon it.

Saturday, July 30th. — This morning about eight o'clock we weighed anchor, and turned to windward till we came to Yarmouth, another little town upon this island, and there cast anchor again, the wind blowing hard, and still westerly. Yarmouth is a smaller town than Cowes; yet, the buildings being better, it makes a handsomer prospect at a distance, and the streets are clean and neat. There is one monument in the church, which the inhabitants are very proud

of, and which we went to see. It was erected to the memory of Sir Robert Holmes,[1] who had formerly been governor of the island. It is his statue in armour, somewhat bigger than the life, standing on his tomb, with a truncheon in his hand, between two pillars of porphyry. Indeed, all the marble about it is very fine and good; and they say it was designed by the French King for his palace at Versailles, but was cast away upon this island, and by Sir Robert himself in his lifetime applied to this use, and that the whole monument was finished long before he died; (though not fixed up in that place) the inscription likewise, (which is very much to his honour), being written by himself. One would think either that he had no defect at all, or had a very ill opinion of the world, seeing he was so careful to make sure of a monument to record his good actions and transmit them to posterity.

Having taken a view of the church, town, and fort, on which there are seven large guns mounted, three of us took a walk up further into the island; and, having gone about two miles, we headed a creek that runs up one end of the town, and then went to Freshwater Church, about a mile nearer the town, but on the other side of the creek. Having stayed here some time it grew dark, and my companions were desirous to be gone, lest those whom we had left drinking where we dined in the town should go on board and leave us. We were told, that it was our best way to go strait down to the mouth of the creek, and that there was a ferry

[1] Sir Robert Holmes (1622–1692) was governor of the Isle of Wight from 1668 to his death. For a description of the monument and a copy of the inscription upon it see Rev. Thomas Pocock, "Memoirs relating to the Lord Torrington," Camden Society, Vol. XLVI, p. 180. — Ed.

boy that would carry us over to the town. But when we came to the house the lazy whelp was in bed, and refused to rise and put us over; upon which we went down to the water-side, with a design to take his boat, and go over by ourselves. We found it very difficult to get the boat, it being fastened to a stake, and the tide risen near fifty yards beyond it; I stripped all to my shirt to wade up to it; but missing the causeway, which was under water, I got up to my middle in mud. At last I came to the stake; but, to my great disappointment, found she was locked and chained. I endeavoured to draw the staple with one of the thole-pins, but in vain; I tried to pull up the stake, but to no purpose; so that, after an hour's fatigue and trouble in the wet and mud, I was forced to return without the boat.

We had no money in our pockets, and therefore began to conclude to pass the night in some haystack, though the wind blew very cold and very hard. In the midst of these troubles one of us recollected that he had a horse-shoe in his pocket, which he found in his walk, and asked me if I could not wrench the staple out with that. I took it, went, tried, and succeeded, and brought the boat ashore to them. Now we rejoiced and all got in, and, when I had dressed myself, we put off. But the worst of all our troubles was to come yet; for, it being high water and the tide over all the banks, though it was moonlight we could not discern the channel of the creek; but, rowing heedlessly straight forward, when we were got about half way over, we found ourselves aground on a mud bank; and, striving to row her off by putting our oars in the mud, we broke one and there stuck fast, not having four inches water. We were now in the utmost perplexity, not knowing what in the world to do;

we could not tell whether the tide was rising or falling; but at length we plainly perceived it was ebb, and we could feel no deeper water within the reach of our oar.

It was hard to lie in an open boat all night exposed to the wind and weather; but it was worse to think how foolish we should look in the morning, when the owner of the boat should catch us in that condition, where we must be exposed to the view of all the town. After we had strove and struggled for half an hour and more, we gave all over, and sat down with our hands before us, despairing to get off; for, if the tide had left us, we had been never the nearer; we must have sat in the boat, as the mud was too deep for us to walk ashore through it, being up to our necks. At last we bethought ourselves of some means of escaping, and two of us stripped and got out, and thereby lightening the boat, we drew her upon our knees near fifty yards into deeper water; and then with much ado, having but one oar, we got safe ashore under the fort; and, having dressed ourselves and tied the man's boat, we went with great joy to the Queen's Head, where we left our companions, whom we found waiting for us, though it was very late. Our boat being gone on board, we were obliged to lie ashore all night; and thus ended our walk.

Sunday, July 31: — This morning the wind being moderated, our pilot designed to weigh, and, taking advantage of the tide, get a little further to windward. Upon which the boat came ashore, to hasten us on board. We had no sooner returned and hoisted in our boat, but the wind began again to blow very hard at west, insomuch that, instead of going any further, we were obliged to weigh and run down again to Cowes for the sake of more secure riding, where

we came to an anchor again in a very little time; and the pudding, which our mess made and put into the pot at Yarmouth, we dined upon at Cowes.

Monday, August 1st. — This morning all the vessels in the harbour put out their colours in honour of the day, and it made a very pretty appearance. The wind continuing to blow hard westerly, our mess resolved to go on shore, though all our loose corks were gone already. We took with us some goods to dispose of, and walked to Newport to make our market, where we sold for three shillings in the pound less than the prime cost in London; and, having dined at Newport, we returned in the evening to Cowes, and concluded to lodge on shore.

Tuesday, August 2d. — This day we passed on shore, diverting ourselves as well as we could; and, the wind continuing still westerly, we stayed on shore this night also.

Wednesday, August 3d. — This morning we were hurried on board, having scarce time to dine, weighed anchor, and stood away for Yarmouth again, though the wind is still westerly; but, meeting with a hoy when we were near halfway there, that had some goods on board for us to take in, we tacked about for Cowes, and came to anchor there a third time, about four in the afternoon.

Thursday, August 4. — Stayed on board till about five in the afternoon, and then went on shore and stopped all night.

Friday, August 5. — Called up this morning and hurried aboard, the wind being Northwest. About noon we weighed and left Cowes a third time, and, sailing by Yarmouth, we came into the channel through the Needles; which passage is guarded by Hurst Castle, standing on a spit of Land

which runs out from the main land of England within a mile of the Isle of Wight. Towards night the wind veered to the Westward, which put us under apprehensions of being forced into port again: but presently after it fell a flat calm, and then we had a small breeze that was fair for half an hour, when it was succeeded by a calm again.

Saturday, August 6. — This morning we had a fair breeze for some hours, and then a calm that lasted all day. In the afternoon I leaped overboard and swam round the ship to wash myself. Saw several porpoises this day. About eight o'Clock we came to an anchor in forty fathom water against the tide of flood, somewhere below Portland, and weighed again about eleven, having a small breeze.

Sunday, August 7. — Gentle breezes all this day. Spoke with a ship, the Ruby, bound for London from Nevis, off the Start of Plymouth. This afternoon spoke with Captain Homans in a ship bound for Boston, who came out of the river when we did, and had been beating about in the channel all the time we lay at Cowes in *the Wight.*

Monday, August 8. — Fine weather, but no wind worth mentioning, all this day; in the afternoon saw the Lizard.

Tuesday, August 9. — Took our leave of the land this morning. Calms the fore part of the day. In the afternoon a small gale; fair. Saw a Grampus.

Wednesday, August 10th. — Wind N. W. Course S. W. about four Knots. By observation in latitude 48° 50′. Nothing remarkable happened.

Thursday, August 11th. — Nothing remarkable. Fresh gale all day.

Friday, August 12; *Saturday,* 13; *Sunday,* 14. — Calms and fair breezes alternately.

Monday, 15; ***Tuesday***, 16; ***Wednesday***, 17. — No contrary winds, but calm and fair breezes alternately.

Thursday, August 18. — Four dolphins followed the ship for some hours; we struck at them with the fizgig, but took none.

Friday, August 19. — This day we have had a pleasant breeze at East. In the morning we spied a sail upon our larboard bow, about two leagues' distance. About noon she put out English colours, and we answered with our ensign, and in the afternoon we spoke with her. She was a ship, of New York, Walter Kippen, master, bound from Rochelle, in France, to Boston, with salt. Our captain and Mr. D—— went on board, and stayed till evening, it being fine weather. Yesterday, complaints being made that Mr. G——n, one of the passengers, had, with a fraudulent design, marked the cards, a court of justice was called immediately, and he was brought to his trial in form. A Dutchman, who could speak no English, deposed by his interpreter that, when our mess was on shore at Cowes, the prisoner at the bar marked all the Court cards on the back with a pen.

I have sometimes observed, that we are apt to fancy the person that cannot speak intelligibly to us, proportionably stupid in understanding, and, when we speak two or three words of English to a foreigner, it is louder than ordinary, as if we thought him deaf, and that he had lost the use of his ears as well as his tongue. Something like this I imagine might be the case of Mr. G——n; he fancied the Dutchman could not see what he was about, because he could not understand English, and therefore boldly did it before his face.

The evidence was plain and positive; the prisoner could not deny the fact, but replied in his defence, that the cards he marked were not those we commonly played with, but an imperfect pack, which he afterwards gave to the cabbin-boy. The attorney-general observed to the court, that it was not likely he should take the pains to mark the cards without some ill design, or some further intention than just to give them to the boy when he had done, who understood nothing at all of cards. But another evidence being called deposed that he saw the prisoner in the main-top one day, when he thought himself unobserved, marking a pack of cards on the backs, some with the print of a dirty thumb, others with the top of his finger, &c. Now, there being but two packs on board, and the prisoner having just confessed the marking of one, the Court perceived the case was plain. In fine the jury brought him in guilty, and he was condemned to be carried up to the round-top, and made fast there, in view of all the ship's company, during the space of three hours, that being the place where the act was committed, and to pay a fine of two bottles of brandy. But the prisoner resisting authority and refusing to submit to punishment, one of the sailors stepped up aloft and let down a rope to us, which we, with much struggling, made fast about his middle, and hoisted him up into the air, sprawling, by main force. We let him hang, cursing and swearing, for near a quarter of an hour; but at length, he crying out Murder! and looking black in the face, the rope being overtort about his middle, we thought proper to let him down again; and our mess have excommunicated him till he pays his fine, refusing either to play, eat, drink, or converse with him.

Saturday, August 20th. — We shortened sail all last night

and all this day, to keep company with the other ship. About noon Captain Kippen and one of his passengers came on board and dined with us; they stayed till evening. When they were gone, we made sail and left them.

Sunday, August 21st. — This morning we lost sight of the Yorker, having a brisk gale of wind at East. Towards night a poor little bird came on board us, being almost tired to death, and suffered itself to be taken by the hand. We reckon ourselves near two hundred leagues from land, so that no doubt a little rest was very acceptable to the unfortunate wanderer, who, 't is like, was blown off the coast in thick weather, and could not find its way back again. We receive it hospitably, and tender it victuals and drink; but he refuses both, and I suppose will not live long. There was one came on board some days ago, in the same circumstances with this, which I think the cat destroyed.

Monday, August 22d. — This morning I saw several flying-fish, but they were small. A favorable wind all day.

Tuesday, August 23; *Wednesday*, 24. — Fair winds, nothing remarkable.

Thursday, August 25. — Our excommunicated shipmate thinking proper to comply with the sentence the court passed upon him, and expressing himself willing to pay the fine, we have this morning received him into unity again. Man is a sociable being, and it is, for aught I know, one of the worst of punishments to be excluded from Society. I have read abundance of fine things on the subject of solitude, and I know 't is a common boast in the mouths of those that affect to be thought wise, *that they are never less alone than when alone.* I acknowledge solitude an agreeable refreshment to a busy mind; but were these thinking people obliged

to be always alone, I am apt to think they would quickly find their very being insupportable to them. I have heard of a gentleman, who underwent seven years' close confinement, in the Bastile, at Paris. He was a man of sense, he was a thinking man, but being deprived of all conversation, to what purpose should he think; for he was denied even the instruments of expressing his thoughts in writing. There is no burden so grievous to man as time that he knows not how to dispose of. He was forced at last to have recourse to this invention; he daily scattered pieces of paper about the floor of his little room, and then employed himself in picking them up again and sticking them in rows and figures on the arm of his elbow-chair; and he used to tell his friends, after his release, that he verily believed, if he had not taken this method he should have lost his senses. One of the philosophers, I think it was Plato, used to say, that he had rather be the veriest stupid block in nature, than the possessor of all knowledge without some intelligent being to communicate it to.

What I have said may in a measure account for some particulars in my present way of living here on board. Our company is in general very unsuitably mixed, to keep up the pleasure and spirit of conversation: and, if there are one or two pair of us that can sometimes entertain one another for half an hour agreeably, yet perhaps we are seldom in the humour for it together. I rise in the morning and read for an hour or two, perhaps, and then reading grows tiresome. Want of exercise occasions want of appetite, so that eating and drinking afford but little pleasure. I tire myself with playing at Draughts, then I go to cards; nay, there is no play so trifling or childish, but we fly to it for

entertainment. A contrary wind, I know not how, puts us all out of good humour; we grow sullen, silent, and reserved, and fret at each other upon every little occasion. 'T is a common opinion among the ladies, that if a man is ill-natured he infallibly discovers it when he is in liquor. But I who have known many instances to the contrary, will teach them a more effectual method to discover the natural temper and disposition of their humble servants. Let the ladies make one long sea-voyage with them, and, if they have the least spark of ill-nature in them, and conceal it to the end of the voyage, I will forfeit all my pretensions to their favour. The wind continues fair.

Friday, August 26. — The wind and weather fair till night came on; and then the wind came about, and we had hard squalls, with rain and lightning, till morning.

Saturday, August 27. — Cleared up this morning, and the wind settled westerly. Two dolphins followed us this afternoon; we hooked one, and struck the other with the fizgig; but they both escaped us, and we saw them no more.

Sunday, August 28. — The wind still continues westerly, and blows hard. We are under a reefed mainsail and foresail.

Monday, August 29. — Wind still hard west. Two dolphins followed us this day; we struck at them, but they both escaped.

Tuesday, August 30. — Contrary wind still. This evening, the moon being near full, as she rose after eight o'clock, there appeared a rainbow in a western cloud, to windward of us. The first time I ever saw a rainbow in the night, caused by the moon.

Wednesday, August 31. — Wind still west; nothing remarkable.

Thursday, Sept. 1. — Bad weather, and contrary winds.

Friday, Sept. 2. — This morning the wind changed; a little fair. We caught a couple of dolphins, and fried them for dinner. They eat indifferent well. These fish make a glorious appearance in the water; their bodies are of a bright green, mixed with a silver colour, and their tails of a shining golden yellow; but all this vanishes presently after they are taken out of their element, and they change all over to a light gray. I observed that cutting off pieces of a just-caught, living dolphin for baits, those pieces did not lose their lustre and fine colours when the dolphin died, but retained them perfectly. Every one takes notice of that vulgar error of the painters, who always represent this fish monstrously crooked and deformed, when it is, in reality, as beautiful and well-shaped a fish as any that swims. I cannot think what could be the original of this chimera of theirs, (since there is not a creature in nature that in the least resembles their dolphin) unless it proceeded at first from a false imitation of a fish in the posture of leaping, which they have since improved into a crooked monster, with a head and eyes like a bull, a hog's snout, and a tail like a blown tulip. But the sailors give me another reason though a whimsical one, viz. that as this most beautiful fish is only to be caught at sea, and that very far to the Southward, they say the painters wilfully deform it in their representations, lest pregnant women should long for what it is impossible to procure for them.

Saturday, September 3; *Sunday,* 4; *Monday,* 5. — Wind still westerly; nothing remarkable.

Tuesday, Sept. 6. — This afternoon the wind still continuing in the same quarter, increased till it blew a storm,

and raised the sea to a greater height than I had ever seen it before.

Wednesday, Sept. 7. — The wind is somewhat abated, but the sea is very high still. A dolphin kept us company all this afternoon; we struck at him several times, but could not take him.

Thursday, Sept. 8. — This day nothing remarkable has happened, but I am so indolent that — Contrary wind.

Friday, Sept. 9. — This afternoon we took four large dolphins, three with a hook and line, and the fourth we struck with a fizgig. The bait was a candle with two feathers stuck in it, one on each side, in imitation of a flying-fish, which are the common prey of the dolphins. They appeared extremely eager and hungry, and snapped up the hook as soon as ever it touched the water. When we came to open them, we found in the belly of one a small dolphin, half-digested. Certainly they were half-famished, or are naturally very savage, to devour those of their own species.

Saturday, Sept. 10. — This day we dined upon the dolphins we caught yesterday, three of them sufficing the whole ship, being twenty-one persons.

Sunday, Sept. 11. — We have had a hard gale of wind all this day, accompanied with showers of rain. 'T is uncomfortable being upon deck; and, though we have been all together all day below, yet the long continuance of these contrary winds has made us so dull, that scarce three words have passed between us.

Monday, Sept. 12; *Tuesday,* 13. — Nothing remarkable; wind contrary.

Wednesday, Sept. 14. — This afternoon, about two o'clock, it being fair weather and almost calm, as we sat playing

drafts upon deck, we were surprized with a sudden and unusual darkness of the sun, which, as we could perceive, was only covered with a small, thin cloud; when that was passed by, we discovered that that glorious luminary laboured under a very great eclipse. At least ten parts out of twelve of him were hid from our eyes, and we were apprehensive he would have been totally darkened.

Thursday, Sept. 15. — For a week past, we have fed ourselves with the hopes, that the change of the moon (which was yesterday) would bring us a fair wind; but, to our great mortification and disappointment, the wind seems now settled in the westward, and shows as little signs of an alteration as it did a fortnight ago.

Friday, Sept. 16. — Calm all this day. This morning we saw a *Tropic bird*, which flew round our vessel several times. It is a white fowl, with short wings; but one feather appears in his tail, and does not fly very fast. We reckon ourselves about half our voyage; latitude 38 and odd minutes. These birds are said never to be seen further north than the latitude of 40.

Saturday, September 17. — All the forenoon the calm continued; the rest of the day some light breezes easterly; and we are in great hopes the wind will settle in that quarter.

Sunday, September 18. — We have had the finest weather imaginable all this day, accompanied with what is still more agreeable, a fair wind. Every one puts on a clean shirt and a cheerful countenance, and we begin to be very good company. Heaven grant that this favourable gale may continue! for we have had so much of turning to windward, that the word *helm-a-lee* is become almost as disagreeable to our ears as the sentence of a judge to a convicted malefactor.

Monday, September 19. — The weather looks a little uncertain, and we begin to fear the loss of our fair wind. We see Tropic birds every day, sometimes five or six together; they are about as big as pigeons.

Tuesday, September 20. — The wind is now westerly again, to our great mortification; and we are come to an allowance of bread, two biscuits and a half a day.

Wednesday, Sept. 21. — This morning our steward was brought to the geers and whipped, for making an extravagant use of flour in the puddings, and for several other misdemeanors. It has been perfectly calm all this day, and very hot. I was determined to wash myself in the sea to-day, and should have done so, had not the appearance of a Shark, that mortal enemy to swimmers, deterred me; he seemed to be about five foot long, moves round the ship at some distance, in a slow, majestic manner, attended by near a dozen of those they call Pilot-fish, of different sizes; the largest of them is not so big as a small mackerell, and the smallest not bigger than my little finger. Two of these diminutive Pilots keep just before his nose, and he seems to govern himself in his motions by their direction; while the rest surround him on every side indifferently. A shark is never seen without a retinue of these, who are his purveyors, discovering and distinguishing his prey for him; while he in turn gratefully protects them from the ravenous, hungry dolphin. They are commonly counted a very greedy fish; yet this refuses to meddle with the bait thrown out for him. 'T is likely he has already made a full meal.

Thursday, Sept. 22nd. — A fresh gale at West all this day. The shark has left us.

Friday, September 23rd. — This morning we spied a sail

to windward of us about two leagues. We showed our jack upon the ensign-staff, and shortened sail for them till about noon, when she came up with us. She was a snow, from Dublin, bound for New York, having upwards of fifty servants on board of both sexes; they all appeared upon deck, and seemed very much pleased at the sight of us. There is really something strangly chearing to the spirits in the meeting of a ship at sea, containing a society of creatures of the same species and in the same circumstances with ourselves, after we had been long separated and excommunicated as it were from the rest of mankind. My heart fluttered in my breast with joy, when I saw so many human countenances, and I could scarce refrain from that kind of laughter, which proceeds from some degree of inward pleasure. When we have been for a considerable time tossing on the vast waters, far from the sight of any land or ships, or any mortal creature but ourselves (except a few fish and sea-birds), the whole world, for aught we know, may be under a second deluge, and we, like Noah and his company in the ark, the only surviving remnant of the human race.

The two Captains have mutually promised to keep each other company; but this I look upon to be only matter of course, for if ships are unequal in their sailing, they seldom stay for one another, especially strangers. This afternoon, the wind, that had been so long contrary to us, came about to the eastward, (and looks as if it would hold,) to our no small satisfaction. I find our messmates in a better humour, and more pleased with their present condition, than they have been since they came out; which I take to proceed from the contemplation of the miserable circumstances of the passengers on board our neighbour, and making the

comparison. We reckon ourselves in a kind of paradise, when we consider how they live, confined and stifled up with such a lousy, stinking rabble, in this hot sultry latitude.

Saturday, Sept. 24. — Last night we had a very high wind, and very thick weather; in which we lost our consort. This morning early we spied a sail ahead of us, which we took to be her; but presently after we spied another, and then we plainly perceived, that neither of them could be the snow; for one of them stemmed with us, and the other bore down directly upon us, having the weather-gage of us. As the latter drew near, we were a little surprized, not knowing what to make of her; for by the course she steered, she did not seem designed for any port, but looked as if she intended to clap us aboard immediately. I could perceive concern in every face on board; but she presently eased us of our apprehensions by bearing away astern of us. When we hoisted our jack, she answered with French colours, and presently took them down again; and we soon lost sight of her. The other ran by us in less than half an hour, and answered our jack with an English ensign; she stood to the Eastward, but the wind was too high to speak with either of them. About nine o'clock we spied our consort, who had got a great way ahead of us. She, it seems, had made sail during the night, while we lay by, with our mainyard down, during the hard gale. She very civilly shortened sail for us, and this afternoon we came up with her; and now we are running along very amicably together, side by side, having a most glorious fair wind.

"On either side the parted billows flow,
While the black ocean foams and roars below."

Sunday, September 25. — Last night we shot ahead of our consort pretty far. About midnight, having lost sight of each other, we shortened sail for them: but this morning they were got as far ahead of us as we could see, having run by us in the dark unperceived. We made sail and came up with them about noon; and if we chance to be ahead of them again in the night, we are to show them a light, that we may not lose company by any such accident for the future. The wind still continues fair, and we have made a greater run these last four-and-twenty hours than we have done since we came out. All our discourse, now, is of Philadelphia, and we begin to fancy ourselves ashore already. Yet a small change of weather, attended by a westerly wind, is sufficient to blast all our blooming hopes, and quite spoil our present good humour.

Monday, September 26. — The wind continued fair all night. In the twelve o'clock watch our consort, who was about a league ahead of us, showed us a light, and we answered with another. About six o'clock this morning we had a sudden hurry of wind at all points of the compass, accompanied with the most violent shower of rain I ever saw, insomuch that the sea looked like a *cream dish.* It surprized us with all our sails up, and was so various, uncertain, and contrary, that the mizzen topsail was full, while the head sails were all aback; and before the men could run from one end of the ship to the other, 't was about again. But this did not last long ere the wind settled to the NorthEast again, to our great satisfaction. Our consort fell astern of us in the storm, but made sail and came up with us again after it was over. We hailed one another on the morrow, congratulating upon the con-

tinuance of the fair wind, and both ran on very lovingly together.

Tuesday, Sept. 27. — The fair wind continues still. I have laid a bowl of punch, that we are in Philadelphia next Saturday se'nnight; for we reckon ourselves not above 150 leagues from land. The snow keeps us company still.

Wednesday, Sept. 28. — We had very variable winds and weather last night, accompanied with abundance of rain; and now the wind is come about westerly again, but we must bear it with patience. This afternoon we took up several branches of gulf-weed (with which the sea is spread all over, from the Western Isles to the coast of America); but one of these branches had something peculiar in it. In common with the rest, it had a leaf about three quarters of an inch long, indented like a saw, and a small yellow berry, filled with nothing but wind; besides which it bore a fruit of the animal kind, very surprising to see. It was a small shell-fish like a heart, the stalk by which it proceeded from the branch being partly of a grisly kind. Upon this one branch of the weed, there were near forty of these vegetable animals; the smallest of them, near the end, contained a substance somewhat like an oyster, but the larger were visibly animated, opening their shells every moment, and thrusting out a set of unformed claws, not unlike those of a crab; but the inner part was still a kind of soft jelly. Observing the weed more narrowly, I spied a very small crab crawling among it, about as big as the head of a tenpenny nail, and of a yellowish colour, like the weed itself. This gave me some reason to think, that he was a native of the branch; that he had not long since been in the same condition with the rest of those little embrios that appeared

in the shells, this being the method of their generation; and that, consequently, all the rest of this odd kind of fruit might be crabs in due time. To strengthen my conjecture, I have resolved to keep the weed in salt water, renewing it every day till we come on shore, by this experiment to see whether any more crabs will be produced or not in this manner.

I remember that the last calm we had, we took notice of a large crab upon the surface of the sea, swimming from one branch of weed to another, which he seemed to prey upon; and I likewise recollect that at Boston, in New England, I have often seen small crabs with a shell like a snail shell upon their backs, crawling about in the salt water; and likewise at Portsmouth in England. It is like Nature has provided them hard shell to secure them till their own proper shell has acquired a sufficient hardness, which once perfected, they quit their old habitation and venture abroad safe in their own strength. The various changes that silkworms, butterflies, and several other insects go through, make such alterations and metamorphoses not improbable. This day the captain of the snow with one of his passengers came on board us; but the wind beginning to blow, they did not stay dinner, but returned to their own vessel.

Thursday, Sept. 29. — Upon shifting the water in which I had put the weed yesterday, I found another crab, much smaller than the former, who seemed to have newly left his habitation. But the weed begins to wither, and the rest of the embrios are dead. This new-comer fully convinces me, that at least this sort of crabs are generated in this manner. The snow's captain dined on board us this day. Little or no wind.

Friday, Sept. 30. — I sat up last night to observe an eclipse of the moon, which the calendar, calculated for London, informed us would happen at five o'clock in the morning, Sept. 30. It began with us about eleven last night, and continued till near two this morning, darkening her body about six digits, or one half; the middle of it being about half an hour after twelve, by which we may discover that we are in a meridian of about four hours and half from London, or 67½ degrees of Longitude, and consequently have not much above one hundred leagues to run. This is the second eclipse we have had within these fifteen days. We lost our consort in the night, but saw him again this morning nearly two leagues to the windward. This afternoon we spoke with him again. We have had abundance of dolphins about us these three or four days; but we have not taken any more than one, they being shy of the bait. I took in some more gulf-weed to-day with the boat-hook, with shells upon it like that before mentioned, and three living perfect crabs, each less than the nail of my little finger. One of them had something particularly observable, to wit, a thin piece of the white shell which I before noticed as their covering while they remained in the condition of embrios, sticking close to his natural shell upon his back. This sufficiently confirms me in my opinion of the manner of their generation. I have put this remarkable crab with a piece of the gulf-weed, shells, &c., into a glass phial filled with salt water, (for want of spirits of wine,) in hopes to preserve the curiosity till I come on shore. The wind is SouthWest.

Saturday, October 1*st.* — Last night our consort, who goes incomparably better upon a wind than our vessel, got

so far to windward and ahead of us, that this morning we could see nothing of him, and it is like shall see him no more. These SouthWests are hot, damp winds, and bring abundance of rain and dirty weather with them.

Sunday, October 2d. — Last night we prepared our line with a design to sound this morning at four o'clock; but the wind coming about again to the northwest, we let it alone. I cannot help fancying the water is changed a little, as is usual when a ship comes within soundings, but 't is probable I am mistaken; for there is but one besides myself of my opinion, and we are very apt to believe what we wish to be true.

Monday, October 3d. — The water is now very visibly changed to the eyes of all except the Captain and Mate, and they will by no means allow it; I suppose because they did not see it first. Abundance of dolphins are about us, but they are very shy, and keep at a distance. Wind NorthWest.

Tuesday, October 4th. — Last night we struck a dolphin, and this morning we found a flying-fish dead under the windlass. He is about the bigness of a small mackerel, a sharp head, a small mouth, and a tail forked somewhat like a dolphin, but the lowest branch much larger and longer than the other, and tinged with yellow. His back and sides of a darkish blue, his belly white, and his skin very thick. His wings are of a finny substance, about a span long, reaching, when close to his body from an inch below his gills to an inch above his tail. When they fly it is straight forward, (for they cannot readily turn,) a yard or two above the water; and perhaps fifty yards is the furthest before they dip into the water again, for they cannot support themselves in the

air any longer than while their wings continue wet. These flying-fish are the common prey of the dolphin, who is their mortal enemy. When he pursues them, they rise and fly; and he keeps close under them till they drop, and then snaps them up immediately. They generally fly in flocks, four or five, or perhaps a dozen together and a dolphin is seldom caught without one or more in his belly. We put this flying-fish upon the hook, in hopes of catching one, but in a few minutes they got it off without hooking themselves; and they will not meddle with any other bait.

Tuesday Night. — Since eleven o'clock we have struck three fine dolphins, which are a great refreshment to us. This afternoon we have seen abundance of grampuses, which are seldom far from land; but towards evening we had a more evident token, to wit, a little tired bird, something like a lark, came on board us, who certainly is an American, and 't is likely was ashore this day. It is now calm. We hope for a fair wind next.

Wednesday, October 5. — This morning we saw a heron, who had lodged aboard last night. 'T is a long-legged, long-necked bird, having, as they say, but one gut. They live upon fish, and will swallow a living eel thrice, sometimes, before it will remain in their body. The wind is west again. The ship's crew was brought to a short allowance of water.

Thursday, October 6th. — This morning abundance of grass, rock-weed, &c., passed by us; evident tokens that land is not far off. We hooked a dolphin this morning, that made us a good breakfast. A sail passed by us about twelve o'clock, and nobody saw her till she was too far astern to be spoken with. 'T is very near calm; we saw

another sail ahead this afternoon; but, night coming on, we could not speak with her, though we very much desired it; she stood to the northward, and it is possible might have informed us how far we are from land. Our artists on board are much at a loss. We hoisted our jack to her, but she took no notice of it.

Friday, October 7.—Last night, about nine o'clock, sprung up a fine gale at NorthEast, which run us in our course at the rate of seven miles an hour all night. We were in hopes of seeing land this morning, but cannot. The water, which we thought was changed, is now as blue as the sky; so that, unless at that time we were running over some unknown shoal, our eyes strangely deceived us. All the reckonings have been out these several days; though the captain says 't is his opinion we are yet a hundred leagues from land; for my part I know not what to think of it; we have run all this day at a great rate, and now night is come on we have no soundings. Sure the American continent is not all sunk under water since we left it.

Saturday, October 8th. — The fair wind continues still; we ran all night in our course, sounding every four hours, but can find no ground yet, nor is the water changed by all this day's run. This afternoon we saw an *Irish Lord*, and a bird which flying looked like a yellow duck. These, they say, are not seen far from the coast. Other signs of lands have we none. Abundance of large porpoises ran by us this afternoon, and we were followed by a shoal of small ones, leaping out of the water as they approached. Towards evening we spied a sail ahead, and spoke with her just before dark. She was bound from New York for Jamaica, and left Sandy Hook yesterday about noon, from

which they reckon themselves forty-five leagues distant. By this we compute that we are not above thirty leagues from our Capes, and hope to see land to-morrow.

Sunday, October 9. — We have had the wind fair all the morning; at twelve o'clock we sounded, perceiving the water visibly changed, and struck ground at twenty-five fathoms, to our universal joy. After dinner one of our mess went up aloft to look out, and presently pronounced the long wished-for sound, LAND! LAND! In less than an hour we could descry it from the deck, appearing like tufts of trees. I could not discern it so soon as the rest; my eyes were dimmed with the suffusion of two small drops of joy. By three o'clock we were run in within two leagues of the land, and spied a small sail standing along shore. We would gladly have spoken with her, for our captain was unacquainted with the Coast, and knew not what land it was that we saw. We made all the sail we could to speak with her. We made a signal of distress; but all would not do, the ill-natured dog would not come near us. Then we stood off again till morning, not caring to venture too near.

Monday, October 10. — This morning we stood in again for land; and we that had been here before all agreed that it was Cape Henlopen; about noon we were come very near, and to our great joy saw the pilot-boat come off to us, which was exceeding welcome. He brought on board about a peck of apples with him; they seemed the most delicious I ever tasted in my life; the salt provisions we had been used to gave them a relish. We had extraordinary fair wind all the afternoon, and ran above a hundred miles up the Delaware before ten at night. The country appears very pleasant to the eye, being covered with woods, except

here and there a house and plantation. We cast anchor when the tide turned, about two miles below Newcastle, and there lay till the morning tide.

Tuesday, October 11. — This morning we weighed anchor with a gentle breeze, and passed by Newcastle, whence they hailed us and bade us welcome. It is extreme fine weather. The sun enlivens our stiff limbs with his glorious rays of warmth and brightness. The sky looks gay, with here and there a silver cloud. The fresh breezes from the woods refresh us; the immediate prospect of liberty, after so long and irksome confinement, ravishes us. In short, all things conspire to make this the most joyful day I ever knew. As we passed by Chester, some of the company went on shore, impatient once more to tread on *terra firma*, and designing for Philadelphia by land. Four of us remained on board, not caring for the fatigue of travel when we knew the voyage had much weakened us. About eight at night, the wind failing us, we cast anchor at Redbank, six miles from Philadelphia, and thought we must be obliged to lie on board that night; but, some young Philadelphians happening to be out upon their pleasure in a boat, they came on board, and offered to take us up with them; we accepted of their kind proposal, and about ten o'clock landed at Philadelphia, heartily congratulating each upon our having happily completed so tedious and dangerous a voyage. Thank God!

7. TO MISS JANE FRANKLIN[1]

Philadelphia, January 6, 1726–7.

DEAR SISTER,

I am highly pleased with the account Captain Freeman gives me of you. I always judged by your behaviour when a child, that you would make a good, agreeable woman, and you know you were ever my peculiar favorite. I have been thinking what would be a suitable present for me to make, and for you to receive, as I hear you are grown a celebrated beauty. I had almost determined on a tea-table; but when I considered, that the character of a good housewife was far preferable to that of being only a pretty gentlewoman, I concluded to send you a *spinning-wheel*, which I hope you will accept as a small token of my sincere love and affection.

Sister, farewell, and remember that modesty, as it makes the most homely virgin amiable and charming, so the want of it infallibly renders the most perfect beauty disagreeable and odious. But, when that brightest of female virtues shines among other perfections of body and mind in the same person, it makes the woman more lovely than an angel. Excuse this freedom, and use the same with me. I am, dear Jenny, your loving brother, B. FRANKLIN.

[1] From "A Collection of the Familiar Letters of Benjamin Franklin." Jared Sparks: Boston, 1833, p. 3. Jane (Franklin) Mecom, youngest sister of Benjamin Franklin, born March 27, 1712; married Edward Mecom; survived her brother four years.

8. RULES FOR A CLUB ESTABLISHED FOR MUTUAL IMPROVEMENT[1]

PREVIOUS QUESTION, TO BE ANSWERED AT EVERY MEETING

HAVE you read over these queries this morning, in order to consider what you might have to offer the Junto touching any one of them? viz.

1. Have you met with any thing in the author you last read, remarkable, or suitable to be communicated to the Junto? particularly in history, morality, poetry, physic, travels, mechanic arts, or other parts of knowledge.

2. What new story have you lately heard agreeable for telling in conversation?

3. Hath any citizen in your knowledge failed in his business lately, and what have you heard of the cause?

4. Have you lately heard of any citizen's thriving well, and by what means?

5. Have you lately heard how any present rich man, here or elsewhere, got his estate?

6. Do you know of a fellow citizen, who has lately done a worthy action, deserving praise and imitation; or who has lately committed an error, proper for us to be warned against and avoid?

[1] These *Rules* were drawn up in the year 1728, and designed as general regulations for a Club, called the JUNTO, consisting of a select number of Franklin's acquaintances in Philadelphia, whom he had induced to associate and hold weekly meetings for mutual improvements. These rules were used in Germany by Herder. See "Benjamin Franklin's Rules for a Club established in Philadelphia, übertragen und ausgelegt als Statut für eine Gesellschaft von Freunden der Humanität, von Johann Gottfried Herder, 1792." Copy in P. H. S. — ED.

7. What unhappy effects of intemperance have you lately observed or heard; of imprudence, of passion, or of any other vice or folly?

8. What happy effects of temperance, of prudence, of moderation, or of any other virtue?

9. Have you or any of your acquaintance been lately sick or wounded? If so, what remedies were used, and what were their effects?

10. Whom do you know that are shortly going voyages or journeys, if one should have occasion to send by them?

11. Do you think of any thing at present, in which the Junto may be serviceable to *mankind*, to their country, to their friends, or to themselves?

12. Hath any deserving stranger arrived in town since last meeting, that you have heard of? And what have you heard or observed of his character or merits? And whether, think you, it lies in the power of the Junto to oblige him, or encourage him as he deserves?

13. Do you know of any deserving young beginner lately set up, whom it lies in the power of the Junto any way to encourage?

14. Have you lately observed any defect in the laws of your *country*, of which it would be proper to move the legislature for an amendment? Or do you know of any beneficial law that is wanting?

15. Have you lately observed any encroachment on the just liberties of the people?

16. Hath any body attacked your reputation lately? And what can the Junto do towards securing it?

17. Is there any man whose friendship you want, and which the Junto, or any of them, can procure for you?

18. Have you lately heard any member's character attacked, and how have you defended it?

19. Hath any man injured you, from whom it is in the power of the Junto to procure redress?

20. In what manner can the Junto, or any of them, assist you in any of your honourable designs?

21. Have you any weighty affair on hand, in which you think the advice of the Junto may be of service?

22. What benefits have you lately received from any man not present?

23. Is there any difficulty in matters of opinion, of justice, and injustice, which you would gladly have discussed at this time?

24. Do you see any thing amiss in the present customs or proceedings of the Junto, which might be amended?

Any person to be qualified [as a member of the JUNTO], to stand up, and lay his hand upon his breast, and be asked these questions, viz.

1. Have you any particular disrespect to any present members? *Answer.* I have not.

2. Do you sincerely declare, that you love mankind in general, of what profession or religion soever? *Answer.* I do.

3. Do you think any person ought to be harmed in his body, name, or goods, for mere speculative opinions, or his external way of worship? *Answer.* No.

4. Do you love truth for truth's sake, and will you endeavour impartially to find and receive it yourself, and communicate it to others? *Answer.* Yes.

9. ARTICLES OF BELIEF (L. C.)

AND

ACTS OF RELIGION

In Two Parts

Here will I hold. If there is a Pow'r above us,
(And that there is, all Nature cries aloud,
Thro' all her Works) He must delight in Virtue;
And that which he delights in must be Happy.
—Cato.

Part I

Philad[a]

Nov. 20: 1728.

FIRST PRINCIPLES[1]

I believe there is one supreme, most perfect Being, Author and Father of the Gods themselves. For I believe that Man is not the most perfect Being but one, rather that as there are many Degrees of Beings his Inferiors, so there are many Degrees of Beings superior to him.

Also, when I stretch my Imagination thro' and beyond our System of Planets, beyond the visible fix'd Stars themselves, into that Space that is every Way infinite, and conceive it fill'd with Suns like ours, each with a Chorus of Worlds forever moving round him, then this little Ball on which we move, seems, even in my narrow Imagination, to be almost Nothing, and myself less than nothing, and of no sort of Consequence.

When I think thus, I imagine it great Vanity in me to suppose, that the *Supremely Perfect* does in the least regard such an inconsiderable Nothing as Man. More especially, since it is impossible for me to have any positive clear idea of that which is infinite and incomprehensible, I cannot conceive otherwise than that he *the Infinite Father* expects or requires no Worship or Praise from us, but that he is even infinitely above it.

But, since there is in all Men something like a natural

[1] The original Ms. of "Articles of Belief," dated Nov. 20, 1728, is in the Stevens Collection (L. C.). It was Franklin's daily companion to the end of his life. It is the earliest autograph Ms. of Franklin in the Stevens Collection. Another copy in that collection is an early transcript entrusted to Valpy, the printer, in 1817. It was found among W. T. Franklin's copies, much mutilated, and wanting six leaves.

Although it purports to be the FIRST PART, the work seems never to have been continued. — ED.

principle, which inclines them to DEVOTION, or the Worship of some unseen Power;

And since Men are endued with Reason superior to all other Animals, that we are in our World acquainted with;

Therefore I think it seems required of me, and my Duty as a Man, to pay Divine Regards to SOMETHING.

I conceive then, that the INFINITE has created many beings or Gods, vastly superior to Man, who can better conceive his Perfections than we, and return him a more rational and glorious Praise.

As, among Men, the Praise of the Ignorant or of Children is not regarded by the ingenious Painter or Architect, who is rather honour'd and pleas'd with the approbation of Wise Men & Artists.

It may be that these created Gods are immortal; or it may be that after many Ages, they are changed, and others Supply their Places.

Howbeit, I conceive that each of these is exceeding wise and good, and very powerful; and that Each has made for himself one glorious Sun, attended with a beautiful and admirable System of Planets.

It is that particular Wise and good God, who is the author and owner of our System, that I propose for the object of my praise and adoration.

For I conceive that he has in himself some of those Passions he has planted in us, and that, since he has given us Reason whereby we are capable of observing his Wisdom in the Creation, he is not above caring for us, being pleas'd with our Praise, and offended when we slight Him, or neglect his Glory.

I conceive for many Reasons, that he is a *good Being*;

and as I should be happy to have so wise, good, and powerful a Being my Friend, let me consider in what manner I shall make myself most acceptable to him.

Next to the Praise resulting from and due to his Wisdom, I believe he is pleas'd and delights in the Happiness of those he has created; and since without Virtue Man can have no Happiness in this World, I firmly believe he delights to see me Virtuous, because he is pleased when he sees Me Happy.

And since he has created many Things, which seem purely design'd for the Delight of Man, I believe he is not offended, when he sees his Children solace themselves in any manner of pleasant exercises and Innocent Delights; and I think no Pleasure innocent, that is to Man hurtful.

I *love* him therefore for his Goodness, and I *adore* him for his Wisdom.

Let me then not fail to praise my God continually, for it is his Due, and it is all I can return for his many Favours and great Goodness to me; and let me resolve to be virtuous, that I may be happy, that I may please Him, who is delighted to see me happy. Amen!

ADORATION

PREL. Being mindful that before I address the Deity, my soul ought to be calm and serene, free from Passion and Perturbation, or otherwise elevated with Rational Joy and Pleasure, I ought to use a Countenance that expresses a filial Respect, mixed wth a kind of Smiling, that Signifies inward Joy, and Satisfaction, and Admiration.

O wise God, my good Father!

Thou beholdest the sincerity of my Heart and of my Devotion; Grant me a Continuance of thy Favour!

1. O Creator, O Father! I believe that thou art Good, and that thou art *pleas'd with the pleasure* of thy children. — Praised be thy name for Ever!

2. By thy Power hast thou made the glorious Sun, with his attending Worlds; from the energy of thy mighty Will, they first received [their prodigious] motion, and by thy Wisdom hast thou prescribed the wondrous Laws, by which they move. — Praised be thy name for Ever!

3. By thy Wisdom hast thou formed all Things. Thou hast created Man, bestowing Life and Reason, and placed him in Dignity superior to thy other earthly Creatures. — Praised be thy name for Ever!

4. Thy Wisdom, thy Power, and thy Goodness are everywhere clearly seen; in the air and in the water, in the Heaven and on the Earth; Thou providest for the various winged Fowl, and the innumerable Inhabitants of the Water; thou givest Cold and Heat, Rain and Sunshine, in their Season, & to the Fruits of the Earth Increase. — Praised be thy name for Ever!

5. Thou abhorrest in thy Creatures Treachery and Deceit, Malice, Revenge, [*intemperance,*] and every other hurtful Vice; but Thou art a Lover of Justice and Sincerity, of Friendship and Benevolence, and every Virtue. Thou art my Friend, my Father, and my Benefactor. — Praised be thy name, O God, for Ever! Amen!

[After this, it will not be improper to read part of some such Book as Ray's *Wisdom of God in the Creation*, or *Blackmore on the Creation*, or the Archbishop of Cambray's

Demonstration of the Being of a God, &c., or else spe some Minutes in a serious Silence, contemplating on th Subjects.]

Then sing

MILTON'S HYMN TO THE CREATOR

"These are thy Glorious Works, Parent of Good!
Almighty, Thine this Universal Frame,
Thus wondrous fair! Thyself how wondrous then!
Speak ye who best can tell, Ye Sons of Light,
Angels, for ye behold him, and with Songs
And Choral Symphonies, Day without Night,
Circle his Throne rejoicing you in Heav'n,
On Earth join all ye creatures to extol
Him first, him last, him midst, and without End.
"Fairest of Stars, last in the Train of Night,
If rather Thou belongst not to the Dawn,
Sure Pledge of Day! thou crown'st the smiling Morn
With thy bright Circlet, Praise him in thy Sphere
While Day arises, that sweet Hour of Prime.
Thou Sun, of this great World, both Eye and Soul,
Acknowledge him thy greater; Sound his Praise
In thy eternal Course; both when thou climb'st,
And when high Noon hast gain'd, and when thou fall'st.
Moon! that now meet'st the orient sun, now fly'st,
With the fixed Stars, fixed in their orb that flies,
And ye five other wandering Fires, that move
In mystic Dance not without Song; resound
His Praise, that out of Darkness called up Light.
Air! and ye Elements! the eldest Birth
Of Nature's womb, that in Quaternion run
Perpetual Circle, multiform, and mix
And nourish all things, let your ceaseless Change
Vary to our great Maker still new Praise.
Ye mists and Exhalations, that now rise
From Hill or steaming lake, dusky or grey,
Till the Sun paint your fleecy skirts with Gold,

In honour to the World's Great Author rise;
Whether to deck with Clouds the uncolor'd sky,
Or wet the thirsty Earth wth falling show'rs,
Rising or falling still advance his Praise.
His Praise, ye Winds! that from 4 quarters blow,
Breathe soft or Loud; and wave your Tops, ye Pines!
With every Plant, in sign of worship wave.
Fountains! and ye that warble, as ye flow
Melodious Murmurs, warbling tune his Praise.
Join voices all ye living souls, ye Birds!
That singing, up to Heaven's high gate ascend,
Bear on your wings, & in your Note his Praise;
Ye that in Waters glide! and ye that walk
The Earth! and stately tread or lowly creep;
Witness *if I be silent*, Ev'n or Morn,
To Hill, or Valley, Fountain, or Fresh Shade,
Made Vocal by my Song, and taught his Praise."

[Here follows the Reading of some Book, or part of a Book, Discoursing on and exciting to Moral Virtue.]

PETITION

Inasmuch as by Reason of our Ignorance We cannot be certain that many Things, which we often hear mentioned in the Petitions of Men to the Deity, would prove real Goods, if they were in our Possession, and as I have reason to hope and believe that the Goodness of my Heavenly Father will not withold from me a suitable share of Temporal Blessings, if by a Virtuous and holy Life I conciliate his Favour and Kindness, Therefore I presume not to ask such things, but rather humbly and with a Sincere Heart, express my earnest desires that he would graciously assist my Continual Endeavours and Resolutions of eschewing Vice and embracing Virtue; which Kind of Supplications will *at least be thus far*

beneficial, as they remind me in a solemn manner of my Extensive duty.

That I may be preserved from Atheism & Infidelity, Impiety, and Profaneness, and, in my Addresses to Thee, carefully avoid Irreverence and ostentation, Formality and odious Hypocrisy, — Help me, O Father!

That I may be loyal to my Prince, and faithful to my country, careful for its good, valiant in its defence, and obedient to its Laws, abhorring Treason as much as Tyranny, — Help me, O Father!

That I may to those above me be dutiful, humble, and submissive; avoiding Pride, Disrespect, and Contumacy, — Help me, O Father!

That I may to those below me be gracious, Condescending, and Forgiving, using Clemency, protecting *innocent Distress*, avoiding Cruelty, Harshness, and oppression, Insolence, and unreasonable Severity, — Help me, O Father!

That I may refrain from Censure, Calumny and Detraction; that I may avoid and abhor Deceit and Envy, Fraud, Flattery, and Hatred, Malice, Lying, and Ingratitude, — Help me, O Father!

That I may be sincere in Friendship, faithful in trust, and Impartial in Judgment, watchful against Pride, and against Anger (that momentary Madness), — Help me, O Father!

That I may be just in all my Dealings, temperate in my Pleasures, full of Candour and Ingenuity, Humanity and Benevolence, — Help me, O Father!

That I may be grateful to my Benefactors, and generous to my Friends, exercising Charity and Liberality to the Poor, and Pity to the Miserable, — Help me, O Father!

That I may avoid Avarice and Ambition, Jealousie, and Intemperance, Falsehood, Luxury, and Lasciviousness, — Help me, O Father!

That I may possess Integrity and Evenness of Mind, Resolution in Difficulties, and Fortitude under Affliction; that I may be punctual in performing my promises, Peaceable and prudent in my Behaviour, — Help me, O Father!

That I may have Tenderness for the Weak, and reverent Respect for the Ancient; that I may be Kind to my Neighbours, good-natured to my Companions, and hospitable to Strangers, — Help me, O Father!

That I may be averse to Talebearing, Backbiting, Detraction, Slander, & Craft, and overreaching, abhor Extortion, Perjury, and every Kind of wickedness, — Help me, O Father!

That I may be honest and open-hearted, gentle, merciful, and good, cheerful in spirit, rejoicing in the Good of others, — Help me, O Father!

That I may have a constant Regard to Honour and Probity, that I may possess a perfect innocence and a good Conscience, and at length become truly Virtuous and Magnanimous, — Help me, good God; help me, O Father![1]

And, forasmuch as ingratitude is one of the most odious of vices, let me not be unmindful gratefully to acknowledge the favours I receive from Heaven.

THANKS

For peace and liberty, for food and raiment, for corn, and wine, and milk, and every kind of healthful nourishment, — Good God, I thank thee!

[1] At this point the original Ms. ends. The subsequent paragraph, including the "Thanks," is found only in W. T. Franklin's transcript (L. C.). — ED.

For the common benefits of air and light; for useful fire and delicious water, — Good God, I thank thee!

For knowledge, and literature, and every useful art, for my friends and their prosperity, and for the fewness of my enemies, — Good God, I thank thee!

For all thy innumerable benefits; for life, and reason, and the use of speech; for health, and joy, and every pleasant hour, — My good God, I thank thee!

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10. THE BUSY-BODY.—No. 1[1] (P. H. S.)

TUESDAY, FEBRUARY 4th, 1728–9

MR. ANDREW BRADFORD,

I DESIGN this to acquaint you, that I, who have long been one of your Courteous Readers, have lately entertain'd some Thoughts of setting up for an Author mySelf; not out of the least Vanity, I assure you, or Desire of showing my Parts, but purely for the Good of my Country.

I have often observ'd with Concern that your Mercury is

[1] In the spring of 1728 Franklin separated from Keimer to found his own printing house in partnership with Hugh Meredith. He determined to establish a newspaper. His plan was betrayed to Keimer, who immediately published proposals for one of his own making. He called his paper "The Universal Instructor in all Arts and Sciences and Pennsylvania Gazette," (December 28, 1728). To wreck his rival's enterprise Franklin contributed to the *American Weekly Mercury* a series of essays subscribed "The Busy-body." The cleverness and entertainment of these essays diverted newspaper readers from the drowsy numbers of Keimer's *Universal Instructor* to the sprightlier columns of the *Mercury*. The first five numbers and the eighth were written by Franklin; the others by Joseph Brientnal. I have never seen the *Mercury* of February 11, 1728–9. With this exception the various numbers are reprinted from copies in the Philadelphia Library, and Pa. Hist. Society. — ED.

not always equally entertaining. The Delay of Ships expected in, and want of fresh Advices from Europe, make it frequently very Dull; and I find the Freezing of our River has the same Effect on News as on Trade. With more Concern have I continually observ'd the growing Vices and Follies of my Country-folk; and, tho' Reformation is properly the concern of every Man; that is, Every one ought to mend One; yet 'tis too true in this Case, that what is every Body's Business is nobody's Business; and the Business is done accordingly. I therefore, upon mature Deliberation, think fit to take Nobody's Business wholly into my own Hands; and, out of Zeal for the Publick Good, design to erect mySelf into a Kind of *Censor Morum*; proposing, with your Allowance, to make Use of the *Weekly Mercury* as a Vehicle in which my Remonstrances shall be convey'd to the World.

I am sensible I have in this Particular undertaken a very unthankful Office, and expect little besides my Labour for my Pains. Nay, 'tis probable I may displease a great Number of your Readers, who will not very well like to pay 10 s. a Year for being told of their Faults. But, as most People delight in Censure when they themselves are not the Objects of it, if any are offended at my publickly exposing their private Vices, I promise they shall have the Satisfaction, in a very little Time, of seeing their good Friends and Neighbours in the same Circumstances.

However, let the Fair Sex be assur'd that I shall always treat them and their Affairs with the utmost Decency and Respect. I intend now and then to dedicate a Chapter wholly to their Service; and if my Lectures any Way contribute to the Embellishment of their Minds and brightning

of their Understandings, without offending their Modesty, I doubt not of having their Favour and Encouragement.

'Tis certain, that no Country in the World produces naturally finer Spirits than ours; Men of Genius for every kind of Science, and capable of acquiring to Perfection every Qualification that is in Esteem among Mankind. But as few here have the Advantage of good Books, for want of which, good Conversation is still more scarce, it would doubtless have been very acceptable to your Readers, if, instead of an old out-of-date Article from Muscovy or Hungary, you had entertained them with some well-chosen Extract from a good Author. This I shall sometimes do, when I happen to have nothing of my own to say that I think of more Consequence. Sometimes I propose to deliver Lectures of Morality or Philosophy, and (because I am naturally enclin'd to be meddling with Things that don't concern me) perhaps I may sometimes talk Politicks. And if I can by any means furnish out a Weekly Entertainment for the Publick that will give a rational Diversion, and at the same Time be instructive to the Readers, I shall think my Leisure Hours well employ'd: And if you publish this, I hereby invite all ingenious Gentlemen and others (that approve of such an Undertaking) to my Assistance and Correspondence.

'Tis like by this Time, you have a Curiosity to be acquainted with my Name and Character. As I do not aim at publick Praise, I design to remain concealed; and there are such Numbers of our Family and Relations at this Time in the Country, that tho' I've sign'd my Name at full Length, I am not under the least Apprehension of being distinguish'd and discover'd by it. My Character, indeed,

I would favour you with, but that I am cautious of praising mySelf, lest I should be told my Trumpeter's dead: And I cannot find in my Heart at present, to say any Thing to my own Disadvantage.

It is very common with Authors, in their first Performances, to talk to their Readers thus; "If this meets with a SUITABLE Reception; Or, If this should meet with DUE Encouragement, I shall hereafter publish, &c." This only manifests the Value they put on their own Writings, since they think to frighten the Publick into their Applause, by threatning, that unless you approve what they have already wrote, they intend never to write again; when perhaps it mayn't be a Pin Matter whether they ever do or no. As I have not observ'd the Criticks to be more favourable on this Account, I shall always avoid saying any Thing of the Kind; and conclude with telling you, that, if you send me a Bottle of Ink and a Quire of Paper by the Bearer, you may depend on hearing further from, Sir, your most humble Servant,

THE BUSY-BODY.

THE BUSY-BODY. — No. 2

TUESDAY, FEBRUARY 11, 1728–9

All fools have still an itching to deride,
And fain would be upon the laughing side.
— POPE.

MONSIEUR de la Rochefoucault tells us somewhere in his Memoirs, that the Prince of Condé delighted much in ridicule, and used frequently to shut himself up for half a day together in his chamber, with a gentleman that was his

favorite, purposely to divert himself with examining what was the foible or ridiculous side of every noted person in the court. That gentleman said afterwards in some company, that he thought nothing was more ridiculous in anybody, than this same humour in the Prince; and I am somewhat inclined to be of this opinion. The general tendency there is among us to this embellishment, which I fear has too often grossly imposed upon my loving countrymen instead of wit, and the applause it meets with from a rising generation, fill me with fearful apprehensions for the future reputation of my country. A young man of modesty (which is the most certain indication of large capacities) is hereby discouraged from attempting to make any figure in life; his apprehensions of being out-laughed will force him to continue in a restless obscurity, without having an opportunity of knowing his own merit himself or discovering it to the world, rather than venture to oppose himself in a place where a pun or a sneer shall pass for wit, noise for reason, and the strength of the argument be judged by that of the lungs.

Among these witty gentlemen let us take a view of Ridentius. What a contemptible figure does he make with his train of paltry admirers! This wight shall give himself an hour's diversion with the cock of a man's hat, the heels of his shoes, an unguarded expression in his discourse, or even some personal defect; and the height of his low ambition is to put some one of the company to the blush, who perhaps must pay an equal share of the reckoning with himself. If such a fellow makes laughing the sole end and purpose of his life; if it is necessary to his constitution, or if he has a great desire of growing suddenly fat, let him eat; let him give

public notice where any dull stupid rogue may get a quart of four-penny for being laughed at; but it is barbarously unhandsome, when friends meet for the benefit of conversation and a proper relaxation from business, that one should be the butt of the company, and four men made merry at the cost of the fifth.

How different from this character is that of the good-natured, gay Eugenius, who never spoke yet but with a design to divert and please, and who was never yet baulked in his intention. Eugenius takes more delight in applying the wit of his friends, than in being admired himself; and if any one of the company is so unfortunate as to be touched a little too nearly, he will make use of some ingenious artifice to turn the edge of ridicule another way, choosing rather to make himself a public jest, than be at the pain of seeing his friend in confusion.

Among the tribe of laughers, I reckon the petty gentlemen that write satires, and carry them about in their pockets, reading them themselves in all company they happen into; taking an advantage of the ill taste of the town to make themselves famous for a pack of paltry, low nonsense, for which they deserve to be kicked rather than admired, by all who have the least tincture of politeness. These I take to be the most incorrigible of all my readers; nay, I expect they will be squibbing at the Busy-Body himself. However, the only favour he begs of them is this, that if they cannot control their overbearing itch of scribbling, let him be attacked in downright biting lyrics; for there is no satire he dreads half so much as an attempt towards a panegyric.

THE BUSY-BODY. — No. 3 (P. H. S.)

TUESDAY, FEBRUARY 18TH, 1728–9

Non vultus instantis Tyranni
Mente quatit solidâ, — neque Auster,
Dux inquieti turbidus Adriæ,
Nec fulminantis magna Jovis manus.
— HOR.

IT is said that the Persians, in their ancient Constitution, had publick Schools in which Virtue was taught as a Liberal Art or Science; and it is certainly of more Consequence to a Man, that he has learnt to govern his Passions; in spite of Temptation to be just in his Dealings, to be Temperate in his Pleasures, to support himself with Fortitude under his Misfortunes, to behave with Prudence in all Affairs, and in every Circumstance of Life; I say, it is of much more real Advantage to him to be thus qualified, than to be a Master of all the Arts and Sciences in the World beside.

Virtue alone is sufficient to make a Man Great, Glorious, and Happy. He that is acquainted with Cato, as I am, cannot help thinking as I do now, and will acknowledge he deserves the Name, without being honour'd by it. Cato is a Man whom Fortune has plac'd in the most obscure Part of the Country. His Circumstances are such, as only put him above Necessity, without affording him many Superfluities; Yet who is greater than Cato? I happened but the other Day to be at a House in Town, where, among others, were met Men of the most Note in this Place. Cato had Business with some of them, and knock'd at the Door. The most trifling Actions of a Man, in my Opinion, as well

as the smallest Features and Lineaments of the Face, give a nice Observer some Notion of his Mind. Methought he rapp'd in such a peculiar Manner, as seem'd of itself to express there was One, who deserv'd as well as desir'd Admission. He appear'd in the plainest Country Garb; his Great Coat was coarse, and looked old and threadbare; his Linnen was homespun; his Beard perhaps of Seven Days' Growth; his Shoes thick and heavy; and every Part of his Dress corresponding. Why was this Man receiv'd with such concurring Respect from every Person in the Room, even from those who had never known him or seen him before? It was not an exquisite Form of Person, or Grandeur of Dress, that struck us with Admiration.

I believe long Habits of Virtue have a sensible Effect on the Countenance. There was something in the Air of his Face, that manifested the true Greatness of his Mind, which likewise appear'd in all he said, and in every Part of his Behaviour, obliging us to regard him with a Kind of Veneration. His Aspect is sweetened with Humanity and Benevolence, and at the same Time emboldned with Resolution, equally free from a diffident Bashfulness and an unbecoming Assurance. The Consciousness of his own innate Worth and unshaken Integrity renders him calm and undaunted in the Presence of the most Great and Powerful, and upon the most extraordinary Occasions. His strict Justice and known Impartiality make him the Arbitrator and Decider of all Differences, that arise for many Miles around him, without putting his Neighbours to the Charge, Perplexity, and Uncertainty of Law-Suits. He always speaks the Thing he means, which he is never afraid or asham'd to do, because he knows he always means well,

and therefore is never oblig'd to blush, and feel the Confusion of finding himself detected in the Meanness of a Falshood. He never contrives Ill against his Neighbour, and therefore is never seen with a lowring, suspicious Aspect. A mixture of Innocence and Wisdom makes him ever seriously chearful. His generous Hospitality to Strangers, according to his Ability; his Goodness, his Charity, his Courage in the Cause of the Oppressed, his Fidelity in Friendship, his Humility, his Honesty and Sincerity, his Moderation, and his Loyalty to the Government; his Piety, his Temperance, his Love to Mankind, his Magnanimity, his Publick-Spiritedness, and in fine, his consummate Virtue, make him justly deserve to be esteem'd the Glory of his Country.

> "The Brave do never shun the Light;
> Just are their Thoughts, and open are their Tempers;
> Freely without Disguise they love and hate;
> Still are they found in the fair Face of Day,
> And Heaven and Men are Judges of their Actions."
>
> — ROWE.

Who would not rather chuse, if it were in his Choice, to merit the above Character, than be the richest, the most learned, or the most powerful Man in the Province without it?

Almost every Man has a strong natural Desire of being valu'd and esteem'd by the rest of his Species, but I am concern'd and griev'd to see how few fall into the Right and only infallible Method of becoming so. That laudable Ambition is too commonly misapply'd, and often ill employ'd. Some to make themselves considerable pursue Learning, others grasp at Wealth; some aim at being thought witty; and others are only careful to make the most of an

handsome Person; But what is Wit, or Wealth, or Form, or Learning, when compar'd with Virtue? 'Tis true, we love the handsome, we applaud the Learned, and we fear the Rich and Powerful; but we even Worship and adore the Virtuous. Nor is it strange; since Men of Virtue are so rare, so very rare to be found. If we were as industrious to become Good as to make ourselves Great, we should become really Great by being Good, and the Number of valuable Men would be much increased; but it is a Grand Mistake to think of being Great without Goodness; and I pronounce it as certain, that there was never yet a truly Great Man, that was not at the same Time truly Virtuous.

O Cretico! thou sowre Philosopher! Thou cunning Statesman! Thou art crafty, but far from being Wise. When wilt thou be esteem'd, regarded, and belov'd like Cato? When wilt thou, among thy Creatures, meet with that unfeign'd respect and warm Good-will, that all Men have for him? Wilt thou never understand, that the cringing, mean, submissive Deportment of thy Dependents, is (like the worship paid by Indians to the Devil) rather thro' Fear of the Harm thou may'st do to them, than out of Gratitude for the Favours they have receiv'd of thee? Thou art not wholly void of Virtue; there are many good Things in thee, and many good Actions reported of thee. Be advised by thy Friend. Neglect those musty Authors; let them be cover'd with Dust, and moulder on their proper Shelves; and do thou apply thyself to a Study much more profitable, The knowledge of Mankind and of thySelf.

This is to give Notice, that the Busy-Body strictly forbids all Persons, from this Time forward, of what Age, Sex,

Rank, Quality, Degree, or Denomination soever, on any Pretence, to enquire who is the Author of this Paper, on Pain of his Displeasure, (his own near and Dear Relations only excepted.)

'Tis to be observ'd, that if any bad Characters happen to be drawn in the Course of these Papers, they mean no particular Person, if they are not particularly apply'd.

Likewise, that the Author is no Party-man, but a general Meddler.

N. B. Cretico lives in a neighbouring Province.

THE BUSY-BODY. — No. 4 (P. H. S.)

TUESDAY, FEBRUARY 25, 1728–9

Ne quid nimis.

IN my first Paper I invited the Learned and the Ingenious to join with me in this Undertaking, and I now repeat that Invitation. I would have such Gentlemen take this Opportunity (by trying their Talent in Writing) of diverting themselves and their Friends, and improving the Taste of the Town. And because I would encourage all Wit of our own Growth and Produce, I hereby promise, that whoever shall send me a little Essay on some moral or other Subject, that is fit for publick View in this Manner, (and not basely borrow'd from any other Author,) I shall receive it with Candour, and take care to place it to the best Advantage. It will be hard if we cannot muster up in the whole Country a sufficient Stock of Sense to supply the *Busy-Body* at least for a Twelvemonth.

For my own Part, I have already profess'd, that I have the Good of my Country wholly at Heart in this Design, without the least sinister View; my chief Purpose being to inculcate the noble Principles of Virtue, and depreciate Vice of every kind. But, as I know the Mob hate Instruction, and the Generality would never read beyond the first Line of my Lectures, if they were actually fill'd with nothing but wholesome Precepts and Advice, I must therefore sometimes humor them in their own Way. There are a Set of Great Names in the Province, who are the common Objects of Popular Dislike. If I can now and then overcome my Reluctance, and prevail with myself to satyrize a little one of these Gentlemen, the Expectation of meeting with such a Gratification will induce many to read me through, who would otherwise proceed immediately to the Foreign News. As I am very well assured the greatest Men among us have a sincere Love for their Country, notwithstanding its Ingratitude, and the Insinuations of the Envious and Malicious to the contrary, so I doubt not but they will chearfully tolerate me in the Liberty I design to take for the End above mentioned.

As yet I have but few Correspondents, tho' they begin now to increase. The following Letter, left for me at the Printer's, is one of the first I have receiv'd, which I regard the more for that it comes from one of the Fair Sex, and because I have myself oftentimes suffer'd under the Grievance therein complain'd of.

"TO THE BUSY-BODY

"SIR,

"You having set yourself up for a *Censuror Morum*, (as I think you call it), which is said to mean a Reformer of

Manners, I know no Person more proper to be apply'd to for Redress in all the Grievances we suffer from Want of *Manners*, in some People. You must know I am a single Woman, and keep a Shop in this Town for a Livelyhood. There is a certain Neighbour of mine, who is really agreeable Company enough, and with whom I have had an Intimacy of some Time standing; but of late she makes her visits so excessively often, and stays so very long every Visit, that I am tir'd out of all Patience. I have no Manner of Time at all to myself; and you, who seem to be a wise Man, must needs be sensible that every Person has little Secrets and Privacies, that are not proper to be expos'd even to the nearest Friend. Now I cannot do the least Thing in the World, but she must know all about it; and it is a Wonder I have found an Opportunity to write you this Letter. My Misfortune is, that I respect her very well, and know not how to disoblige her so much as to tell her I should be glad to have less of her Company; for if I should once hint such a Thing, I am afraid she would resent it so as never to darken my Door again.

"But alas, Sir, I have not yet told you half my Affliction. She has two Children, that are just big enough to run about and do pretty Mischief; these are continually along with Mamma, either in my Room or Shop, if I have ever so many Customers or People with me about Business. Sometimes they pull the Goods off my low Shelves down to the Ground, and perhaps where one of them has just been making Water. My Friend takes up the Stuff, and cries, 'Eh! thou little wicked mischievous Rogue! But, however, it has done no great Damage; 'tis only wet a little;' and so puts it up upon the Shelf again. Sometimes they get to my Cask of Nails

behind the Counter, and divert themselves, to my great Vexation, with mixing my Ten-penny, and Eight-penny, and Four-penny, together. I endeavour to conceal my Uneasiness as much as possible, and with a grave Look go to Sorting them out. She cries, 'Don't thee trouble thyself, Neighbour: Let them play a little; I'll put all to rights myself before I go.' But Things are never so put to rights, but that I find a great deal of Work to do after they are gone. Thus, Sir, I have all the Trouble and Pesterment of Children, without the Pleasure of — calling them my own; and they are now so us'd to being here, that they will be content nowhere else. If she would have been so kind as to have moderated her Visits to ten times a Day, and stay'd but half an hour at a Time, I should have been contented, and I believe never have given you this Trouble. But this very Morning they have so tormented me, that I could bear no longer; for, while the Mother was asking me twenty impertinent Questions, the youngest got to my Nails, and with great Delight rattled them by handfuls all over the Floor; and the other, at the same Time, made such a terrible Din upon my Counter with a Hammer, that I grew half distracted. I was just then about to make myself a new Suit of Pinners; but in the Fret and Confusion I cut it quite out of all Manner of Shape, and utterly spoil'd a Piece of the first Muslin.

"Pray, Sir, tell me what I shall do; and talk a little against such unreasonable Visiting in your next Paper; tho' I would not have her affronted with me for a great Deal, for sincerely I love her and her Children, as well, I think, as a Neighbour can, and she buys a great many Things in a Year at my Shop. But I would beg her to consider, that she uses me

unmercifully, Tho' I believe it is only for want of Thought. But I have twenty Things more to tell you besides all this: There is a handsome Gentleman, that has a Mind (I don't question) to make love to me, but he can't get the least Opportunity to — O dear! here she comes again; I must conclude, yours, &c.

"PATIENCE."

Indeed, 'tis well enough, as it happens, that she is come to shorten this Complaint, which I think is full long enough already, and probably would otherwise have been as long again. However, I must confess, I cannot help pitying my Correspondent's Case; and, in her Behalf, exhort the Visitor to remember and consider the Words of the Wise Man, "Withdraw thy Foot from the House of thy Neighbour, lest he grow weary of thee, and so hate thee." It is, I believe, a nice thing, and very difficult, to regulate our Visits in such a Manner, as never to give Offence by coming too seldom, or too often, or departing too abruptly, or staying too long. However, in my Opinion, it is safest for most People in a general way, who are unwilling to disoblige, to visit seldom, and tarry but a little while in a Place, notwithstanding pressing invitations, which are many times insincere. And tho' more of your Company should be really desir'd, yet in this Case, too much Reservedness is a Fault more easily excus'd than the Contrary.

Men are subjected to various Inconveniences meerly through lack of a small Share of Courage, which is a Quality very necessary in the common Occurrences of Life, as well as in a Battle. How many Impertinences do we daily suffer with great Uneasiness, because we have not Courage enough

to discover our Dislike? And why may not a Man use the Boldness and Freedom of telling his Friends, that their long Visits sometimes incommode him? On this Occasion, it may be entertaining to some of my Readers, if I acquaint them with the *Turkish* Manner of entertaining Visitors, which I have from an Author of unquestionable Veracity; who assures us, that even the Turks are not so ignorant of Civility and the Arts of Endearment, but that they can practise them with as much Exactness as any other Nation, whenever they have a Mind to shew themselves obliging.

"When you visit a Person of Quality," (says he) "and have talk'd over your Business, or the Complements, or whatever Concern brought you thither, he makes a Sign to have Things serv'd in for the Entertainment, which is generally, a little Sweetmeat, a Dish of Sherbet, and another of Coffee; all which are immediately brought in by the Servants, and tender'd to all the Guests in Order, with the greatest Care and Awfulness imaginable. At last comes the finishing Part of your Entertainment, which is, Perfuming the Beards of the Company; a Ceremony which is perform'd in this Manner. They have for the Purpose a small Silver Chaffing-Dish, cover'd with a Lid full of Holes, and fixed upon a handsome Plate. In this they put some fresh Coals, and upon them a piece of *Lignum Aloes*, and shutting it up, the smoak immediately ascends with a grateful Odour thro' the Holes of the Cover. This smoak is held under every one's Chin, and offer'd as it were a Sacrifice to his Beard. The bristly Idol soon receives the Reverence done to it, and so greedily takes in and incorporates the gummy Steam, that it retains the Savour of it, and may serve for a Nosegay a good while after.

"This Ceremony may perhaps seem ridiculous at first hearing, but it passes among the *Turks* for a high Gratification. And I will say this in its Vindication, that its Design is very wise and useful. For it is understood to give a civil Dismission to the Visitants, intimating to them, that the Master of the House has Business to do, or some other Avocation, that permits them to go away as soon as they please, and the sooner after this Ceremony the better. By this Means you may, at any Time, without Offence, deliver yourself from being detain'd from your Affairs by tedious and unseasonable Visits; and from being constrain'd to use that Piece of Hypocrisy, so common in the World, of pressing those to stay longer with you, whom perhaps in your Heart you wish a great Way off for having troubled you so long already."

Thus far my Author. For my own Part, I have taken such a Fancy to this Turkish Custom, that for the future I shall put something like it in Practice. I have provided a Bottle of right French Brandy for the Men, and Citron-Water for the Ladies. After I have treated with a Dram, and presented a Pinch of my best Snuff, I expect all Company will retire, and leave me to pursue my Studies for the Good of the Publick.

ADVERTISEMENT

I give Notice, that I am now actually compiling, and design to publish in a short Time, the true History of the Rise, Growth, and Progress of the renowned Tiff-Club. All Persons who are acquainted with any Facts, Circumstances, Characters, Transactions, &c. which will be requisite to the Perfecting and Embellishment of the said Work,

are desired to communicate the same to the Author, and direct their Letters to be left with the Printer hereof.

The Letter, sign'd "*Would-be-something*," is come to hand.

THE BUSY-BODY. — No. 5 (P. H. S.)

TUESDAY, MARCH 4, 1728–9

Vos, o patricius sanguis, quos vivere fas est
Occipiti cæco, posticæ occurrite sannæ.

— PERSIUS.

THIS Paper being design'd for a Terror to Evil-Doers, as well as a Praise to them that do well, I am lifted up with secret Joy to find, that my Undertaking is approved, and encourag'd by the Just and Good, and that few are against me but those, who have Reason to fear me.

There are little Follies in the Behaviour of most Men, which their best Friends are too tender to acquaint them with; There are little Vices and small Crimes, which the Law has no Regard to or Remedy for: There are likewise great Pieces of Villany sometimes so craftily accomplish'd, and so circumspectly guarded, that the Law can take no Hold of the Actors. All these Things, and all Things of this Nature, come within my Province as Censor; and I am determined not to be negligent of the Trust I have reposed in myself, but resolve to execute my Office diligently and Faithfully.

And that all the World may judge with how much Humanity, as well as Justice, I shall behave in this Office; and that even my Enemies may be convinc'd I take no

Delight to rake into the Dunghill Lives of vicious Men; and to the End that certain Persons may be a little eas'd of their Fears, and reliev'd from the terrible Palpitations they have lately felt and suffered, and do still suffer; I hereby graciously pass an Act of general Oblivion, for all Offences, Crimes, and Misdemeanors of what Kind soever, committed from the Beginning of Year sixteen hundred and eighty one, until the Day of the Date of my first Paper, and promise only to concern myself with such as have been since and shall hereafter be committed. I shall take no Notice who has (heretofore) rais'd a Fortune by Fraud and Oppression, nor who by Deceit and Hypocrisy; What Woman has been false to her good Husband's Bed, nor what Man has, by barbarous Usage or Neglect, broke the Heart of a faithful Wife, and wasted his Health and Substance in Debauchery; What Base Wretch has betray'd his Friend, and sold his Honesty for Gold, nor what yet baser Wretch first corrupted him, and then bought the Bargain; all this, and much more of the same kind, I shall forget, and pass over in Silence; but then it is to be observed, that I expect and require a sudden and general Amendment.

These Threatnings of mine I hope will have a good Effect, and, if regarded, may prevent abundance of Folly and Wickedness in others, and, at the same Time, save me abundance of Trouble. And, that People may not flatter themselves with the Hopes of concealing their Misdemeanours from my Knowledge, and in that View persist in Evil-doing, I must acquaint them, that I have lately enter'd into an Intimacy with the extraordinary Person, who some Time since wrote me the following Letter; and who, having a Wonderful Faculty, that enables him discover the most

secret Iniquity, is capable of giving me great Assistance in my designed Work of Reformation.

"MR. BUSY-BODY,[1]

"I rejoice, Sir, at the Opportunity you have given me to be serviceable to you, and, by your Means, to this Province. You must know, that such have been the Circumstances of my life, and such were the marvellous Concurrences of my Birth, that I have not only a Faculty of discovering the Actions of Persons, that are absent or asleep; but even of the Devil himself, in many of his secret Workings, in the various Shapes, Habits, and Names of Men and Women; and, having travel'd and conversed much and met but with a very few of the same Perceptions and Qualifications, I can recommend mySelf to you as the most useful Man you can correspond with. My Father's Father's Father (for we had no Grandfathers in our Family) was the same John Bunyan, that writ that memorable Book, *The Pilgrim's Progress*, who had, in some Degree, a natural Faculty of Second Sight. This Faculty (how derived to him our Family Memoirs are not very clear) was enjoy'd by all his Descendants, but not by equal Talents. 'Twas very dim in several of my first Cousins, and probably had been nearly extinct in our particular Branch, had not my Father been a Traveller. He lived in his youthful Days in New England. There he married, and there was born my elder Brother, who had so much of this Faculty, as to discover Witches in some of their occult Performances.

"My Parents transporting themselves to Great Britain,

[1] From this point to the end of the letter Joseph Brientnal is the author. — ED.

my second Brother's Birth was in that Kingdom. He shared but a small Portion of this Virtue, being only able to discern Transactions about the Time, and for the most Part after their happening. My good Father, who delighted in *The Pilgrim's Progress*, and mountainous Places, took Shipping with his Wife for Scotland, and inhabited in the Highlands, where mySelf was born; and whether the Soil, Climate, or Astral Influences, of which are preserved divers Prognosticks, restored our Ancestor's Natural Faculty of Second Sight, in a greater Lustre to me, than it had shined in thro' several Generations, I will not here discuss. But so it is, that I am possess'd largely of it, and design, if you encourage the Proposal, to take this Opportunity of doing good with it, which I question not will be accepted of in a grateful Way by many of your honest Readers, tho' the Discovery of my Extraction bodes me no Deference from your great Scholars and modern Philosophers. This my Father was long ago aware of; and lest the Name alone should hurt the Fortunes of his Children, he in his Shiftings from one Country to another, wisely changed it.

"Sir, I have only this further to say, how I may be useful to you, and as a Reason for my not making mySelf more known in the World. By Virtue of this great Gift of Nature, Second-Sightedness, I do continually see Numbers of Men, Women, and Children, of all Ranks, and what they are doing, while I am sitting in my Closet; which is too great a Burthen for the Mind, and makes me also conceit, even against Reason, that all this Host of People can see and observe me, which strongly inclines me to Solitude, and an obscure Living; and, on the other Hand, it will be an Ease to me to disburthen my Thoughts and Observations in the

Way proposed to you by, Sir, your Friend and humble Servant."

I conceal this Correspondent's Name, in my Care for his Life and Safety, and cannot but approve his Prudence in chusing to live obscurely. I remember the Fate of my poor Monkey. He had an ill-natur'd Trick of grinning and chattering at every Thing he saw in Petticoats. My Ignorant Country Neighbours got a Notion, that Pug snarl'd by instinct at every Female who had lost her Virginity. This was no sooner generally believed, than he was condemn'd to Death; By whom, I could never learn, but he was assassinated in the Night, barbarously stabb'd and mangled in a Thousand Places, and left hanging dead on one of my Gate-posts, where I found him the next Morning.

The Censor observing, that the Itch of Scribbling begins to spread exceedingly, and being carefully tender of the Reputation of his Country in Point of Wit and Good Sense, has determined to take all manner of writings in Verse or Prose, that pretend to either, under his immediate Cognizance; and accordingly hereby prohibits the Publishing any such for the future, till they have first pass'd his Examination, and receiv'd his *Imprimatur;* for which he demands as a Fee only 6d per Sheet.

N. B. He nevertheless permits to be published all Satyrical Remarks on the Busy-Body, the above Prohibition notwithstanding, and without Examination, or requiring the said Fees; which Indulgence the small Wits in and about this City are advised gratefully to accept and acknowledge.

The Gentleman, who calls himself *Sirronio*, is directed, on Receipt of this, to burn his great Book of *Crudities*.

P. S. In Compassion to that young Man, on Account of the great Pains he has taken; in Consideration of the Character I have just receiv'd of him, that he is really Good-natured, and on Condition he shows it to no Foreigner or Stranger of Sense, I have thought fit to reprieve his said great Book of *Crudities* from the Flames, 'till further Order.

Noli me tangere.

I HAD resolved, when I first commenced this Design, on no Account to enter into a publick Dispute with any Man; for I judg'd it would be equally unpleasant to me and my Readers, to see this Paper fill'd with contentious Wrangling, Answers, Replies, &c.; which is a Way of Writing that is Endless, and, at the same time, seldom contains any Thing that is either edifying or entertaining. Yet when such a considerable Man as Mr. —— finds himself concern'd so warmly to accuse and condemn me, as he has done in Keimer's last *Instructor*, I cannot forbear endeavouring to say something in my own Defence, from one of the worst of Characters that could be given of me by a Man of Worth. But as I have many Things of more Consequence to offer the Publick, I declare, that I will never, after this Time, take Notice of any Accusations, not better supported with Truth and Reason; much less may every little Scribbler, that shall attack me, expect an Answer from the Busy-Body.

The Sum of the Charge deliver'd against me, either directly or indirectly, in the said Paper, is this. Not to mention the first weighty Sentence concerning Vanity and

Ill-Nature, and the shrewd Intimation, that I am without Charity, and therefore can have no Pretence to Religion, I am represented as guilty of Defamation and Scandal, the Odiousness of which is apparent to every good Man, and the Practice of it opposite to Christianity, Morality, and common Justice, and, in some Cases, so far below all these, as to be inhumane; As a Blaster of Reputations. As attempting, by a Pretence, to screen myself from the Imputation of Malice and Prejudice. As using a Weapon, which the Wiser and better Part of Mankind hold in Abhorrence. And as giving Treatment, which the wiser and better Part of Mankind dislike on the same Principles, and for the same Reason, as they do Assassination, &c.; and all this is infer'd and concluded from a Character I wrote in my Number III.

In order to examine the Justice and Truth of this heavy Charge, let us recur to that Character. And here we may be surpriz'd to find what a Trifle has rais'd this mighty Clamour and Complaint, this Grievous Accusation! The worst Thing said of the Person, in what is called my gross Description (be he who he will to whom my Accuser has apply'd the Character of Cretico), is, that he is a sowre Philosopher, crafty, but not wise. Few Humane Characters can be drawn, that will not fit somebody, in so large a Country as this; but one would think, supposing I meant Cretico a real Person, I had sufficiently manifested my Impartiality, when I said, in that very Paragraph, that Cretico is not without Virtue; that there are MANY good Things in him, and MANY good Actions reported of him; Which must be allow'd, in all Reason, very much to overballance in his Favour those worst Words, sowre-temper'd and cunning.

Nay, my very Enemy and Accuser must have been sensible of this, when he freely acknowledges, that he has been seriously considering, and cannot yet determine, which he would chuse to be, the Cato or Cretico of that Paper; since my Cato is one of the best of Characters. Thus much in my own Vindication.

As to the only reasons there given, why I ought not to continue drawing Characters, viz. Why should any Man's Picture be published, which he never sat for; or his good Name taken from him, any more than his Money or Possessions, at the arbitrary Will of another, &c.? I have but this to answer. The Money or Possessions, I presume, are nothing to the Purpose, since no Man can claim a Right either to those or a good Name, if he has acted so as to forfeit them. And are not the Publick the only Judges what Share of Reputation they think proper to allow any Man? Supposing I was capable, and had an Inclination to draw all the good and bad Characters in America: Why should a good Man be offended with me for drawing good Characters? And if I draw Ill Ones, can they fit any but those that deserve them? And ought any *but such* to be concern'd that they have their Deserts? I have as great an Aversion and Abhorrence from Defamation and Scandal as any Man, and would with the utmost Care avoid being guilty of such base Things; Besides I am very sensible and certain, that if I should make use of this Paper to defame any Person, my Reputation would be sooner hurt by it than his, and the Busy-Body would quickly become detestable; because, in such a Case, as is justly observed, the Pleasure arising from a Taste of Wit and Novelty soon dies away in generous and Honest Minds, and is

followed with a secret Grief to see their Neighbours calumniated.

But if I myself was actually the worst Man in the Province, and any one should draw my true Character, would it not be ridiculous in me to say he had defam'd and scandaliz'd me, unless added *in a matter of Truth?* —— If any Thing is meant by asking, why any Man's Picture should be publish'd, which he never sat for, it must be, that we should give no Character without the Owner's Consent. If I discern the Wolf disguis'd in harmless Wool, and contriving the Destruction of my Neighbour's Sheep, must I have his Permission before I am allow'd to discover and prevent him? If I know a Man to be a designing Knave, must I ask his Consent to bid my Friends beware of him? If so, Then by the same Rule, supposing the Busy-Body had really merited all his Enemy had charg'd him with, his Consent likewise ought to have been obtain'd before so terrible an Accusation was published against him.

I shall conclude with observing, that in the last Paragraph save one of the Piece now examin'd, much Ill-Nature and some Good Sense are Co-inhabitants (as he expresses *it*). The Ill-Nature appears in his endeavouring to discover Satyr where I intended no such Thing, but quite the Reverse: The good Sense is this, that drawing too good a Character of any one is a refined Manner of Satyr, that may be as injurious to him as the contrary, by bringing on an Examination that undresses the Person, and, in the Haste of doing it, he may happen to be stript of what he really owns and deserves. As I am Censor, I might punish the first, but I forgive it. Yet I will not leave the latter unrewarded; but assure my Adversary, that in Consideration

of the Merit of those four Lines, I am resolved to forbear injuring him on any Account in that refined Manner.

I thank my Neighbour P—— W——l for his kind Letter.

The Lions complain'd of shall be muzzled.

THE BUSY-BODY. — No. 8 (L. C. P.)

TUESDAY, MARCH 27, 1729

Quid non mortalia pectora cogis,
Auri sacra fames!

—VIRGIL.

ONE of the greatest Pleasures an Author can have, is certainly the Hearing his Works applauded. The hiding from the World our Names, while we publish our Thoughts, is so absolutely necessary to this Self-Gratification, that I hope my Well-wishers will congratulate me on my Escape from the many diligent but fruitless Enquiries, that have of late been made after me. Every Man will own, That an Author, as such, ought to be try'd by the Merit of his Production only; but Pride, Party, and Prejudice at this Time run so very high, that Experience shews we form our Notions of a Piece by the Character of the Author. Nay, there are some very humble Politicians in and about this City, who will ask on which Side the Writer is, before they presume to give their Opinion of the Thing wrote. This ungenerous Way of Proceeding I was well aware of before I publish'd my first Speculation, and therefore concealed my Name. And I appeal to the more generous Part of

the World, if I have since I appear'd in the Character of the Busy-Body, given an Instance of my siding with any Party more than another, in the unhappy Divisions of my Country; and I have, above all, this Satisfaction in my-Self, that neither Affection, Aversion, or Interest have byass'd me to use any Partiality towards any Man, or sett of Men; but whatsoever I find nonsensically ridiculous, or immorally dishonest, I have, and shall continue openly to attack, with the Freedom of an honest Man and a Lover of my Country.

I profess I can hardly contain mySelf, or preserve the Gravity and Dignity, that should attend the Censorial Office, when I hear the odd and unaccountable Expositions, that are put upon some of my Works, thro' the malicious Ignorance of some, and the vain Pride of more than ordinary Penetration in others; one Instance of which many of my Readers are acquainted with. A certain Gentleman has taken a great Deal of Pains to write a Key to the Letter in my No. 4, wherein he has ingeniously converted a gentle Satyr upon tedious and impertinent Visitants, into a Libel on some in the Government. This I mention only as a Specimen of the Taste of the Gentlemen I am, forsooth, bound to please in my Speculations, not that I suppose my Impartiality will ever be called in Question upon that Account. Injustices of this Nature I could complain of in many Instancies; but I am at present diverted by the Reception of a Letter, which, tho' it regards me only in my Private Capacity as an Adept, yet I venture to publish it for the Entertainment of my Readers.

To Censor Morum, Esq., Busy-Body General of the Province of Pennsylvania, and the counties of Newcastle, Kent, and Sussex upon Delaware.[1]

"HONOURABLE SIR,

"I judge by your Lucubrations, that you are not only a Lover of Truth and Equity, but a Man of Parts and Learning and a Master of Science; as such I honour you. Know, then, Most profound Sir, That I have, from my Youth up, been a very indefatigable Student in and Admirer of that Divine Science, Astrology. I have read over Scot, Albertus Magnus, and Cornelius Agrippa, above 300 Times; and was in hopes, by my Knowledge and Industry, to gain enough to have recompenced me for my Money expended and Time lost in the Pursuit of this Learning. You cannot be ignorant, Sir, (for your intimate Second-sighted Correspondent knows all Things) that there are large Sums of Money hidden under Ground in divers Places about this Town, and in many Parts of the Country; but, alas, Sir, Notwithstanding I have used all the Means laid down in the immortal Authors before mentioned, and when they fail'd, the ingenious Mr. P—d—l, with his Mercurial Wand and Magnet, I have still fail'd in my Purpose. This therefore I send, to propose and desire an Acquaintance with you; and I do not doubt, notwithstanding my repeated Ill Fortune, but we may be exceedingly serviceable to each other in our Discoveries; and that if we use our united Endeavours, the Time will come when the Busy-Body, his Second-sighted Correspondent, and your very humble Servant, will be Three of the richest Men in the Province. And then, Sir,

[1] This letter of "Titan Pleiades" was written by Joseph Brientnal. — ED.

what may not we do? A Word to the Wise is sufficient. I conclude, with all demonstrable Respect, yours and Urania's Votary,

"TITAN PLEIADES."

In the Evening, after I had received this Letter, I made a Visit to my Second-sighted Friend, and communicated to him the Proposal. When he had read it, he assur'd me, that to his certain Knowledge there is not at this Time so much as one Ounce of Silver or Gold hid under Ground in any Part of this Province: For that the late and present Scarcity of Money had obliged those, who were living, and knew where they had formerly hid any, to take it up, and use it in their own necessary Affairs. And as to all the Rest, which was buried by Pyrates and others in old Times, who were never like to come for it, he himself had dug it all up and applied it to charitable Uses; And this he desired me to publish for general Good. For, as he acquainted me, There are among us great Numbers of honest Artificers and labouring People, who fed with a vain Hope of growing suddenly rich, neglect their Business, almost to the ruining of themselves and Families, and voluntarily endure abundance of Fatigue in a fruitless Search after Imaginary hidden Treasure. They wander thro' the Woods and Bushes by Day, to discover the Marks and Signs; at Midnight they repair to the hopeful Spot with Spades and Pickaxes; full of Expectation, they labour violently, trembling at the same Time, in every Joint, thro' Fear of certain malicious Demons, who are said to haunt and guard such Places. At length a mighty hole is dug, and perhaps several Cart-loads of Earth thrown out; but, alas, no Cag or Iron Pot is found! No

Seaman's Chest cram'd with Spanish Pistoles, or weighty Pieces of Eight! Then they conclude, that, thro' some Mistake in the Procedure, some rash Word spoke, or some Rule of Art neglected, the Guardian Spirit had Power to sink it deeper into the Earth, and convey it out of their Reach. Yet when a Man is once thus infatuated, he is so far from being discouraged by ill Success, that he is rather animated to double his Industry, and will try again and again in a Hundred Different Places, in Hopes at last of meeting with some lucky Hit, that shall at once sufficiently reward him for all his Expence of Time and Labour.

This odd Humour of Digging for Money, thro' a Belief that much has been hid by Pirates formerly frequenting the River, has for several Years been mighty prevalent among us; insomuch that you can hardly walk half a Mile out of Town on any Side, without observing several Pits dug with that Design, and perhaps some lately opened. Men, otherwise of very good Sense, have been drawn into this Practice thro' an overweening Desire of sudden Wealth, and an easy Credulity of what they so earnestly wished might be true; while the rational and almost certain Methods of acquiring Riches by Industry and Frugality are neglected or forgotten. There seems to be some peculiar Charm in the conceit of *finding* Money; and if the Sands of Schuylkil were so much mixed with small Grains of Gold, that a Man might in a Day's Time, with Care and Application, get together to the Value of half a Crown, I make no Question but we should find several People employ'd there, that can with Ease earn Five Shillings a Day at their proper Trades.

Many are the idle Stories told of the private Success of some People, by which others are encouraged to proceed,

and the Astrologers, with whom the Country swarms at this Time, are either in the Belief of these things themselves, or find their Advantage in persuading others to believe them; for they are often consulted about the critical Times for Digging, the Methods of laying the Spirit, and the like Whimseys, which renders them very necessary to, and very much caress'd by the poor deluded Money-hunters.

There is certainly something very bewitching in the Pursuit after Mines of Gold and Silver and other valuable Metals; And many have been ruined by it. A Sea-Captain of my Acquaintance us'd to blame the English for envying Spain their Mines of Silver, and too much despising or overlooking the Advantages of their own Industry and Manufactures. "For my Part," says he, "I esteem the Banks of Newfoundland to be a more valuable Possession than the Mountains of Potosi; and, when I have been there on the Fishing Account, have look'd upon every cod pull'd up into the Vessel as a certain Quantity of Silver Ore, which required only carrying to the next Spanish Port to be coin'd into Pieces of Eight; not to mention the National Profit of fiting out and Employing such a Number of Ships and Seamen."

Let honest Peter Buckrum, who has long without Success been a Searcher after hidden Money, reflect on this, and be reclaimed from that unaccountable Folly. Let him consider, that every Stitch he takes, when he is on his Shopboard, is picking up part of a Grain of Gold, that will in a few Days' Time amount to a Pistole; and let Faber think the same of every Nail he drives, or every Stroke with his Plain. Such Thoughts may make them industrious, and of consequence in Time they may be Wealthy. But how absurd is it to neglect a certain Profit for such a ridiculous Whimsey:

To spend whole Days at the George, in company with an idle Pretender to Astrology, contriving Schemes to discover what was never hidden, and forgetful how carelessly Business is managed at Home in their Absence; to leave their Wives and a warm Bed at Midnight (no matter if it rain, hail, snow, or blow a Hurricane, provided that be the critical Hour), and fatigue themselves with the Violent Exercise of Digging for what they shall never find, and perhaps getting a Cold that may cost their Lives, or at least disordering themselves so as to be fit for no Business beside for some Days after. Surely this is nothing less than the most egregious Folly and Madness.

I shall conclude with the Words of my discreet friend Agricola, of Chester County, when he gave his Son a Good Plantation. "My son," says he, "I give thee now a Valuable Parcel of Land; I assure thee I have found a considerable Quantity of Gold by Digging there; thee mayst do the same. But thee must carefully observe this, *Never to dig more than Plow-deep.*"

II. A MODEST

ENQUIRY

INTO THE

NATURE AND NECESSITY

OF A

PAPER CURRENCY

Quid asper
Utile nummus habet; patriae charisq, propinquis
Quantum elargiri deceat.

— PERS.

Philadelphia: —
Printed and sold at the new Printing-
Office, near the Market, 1729.[1] (P. H. S.)

[1] For the origin of this tract see the Autobiography, Vol. I, p. 306. — ED.

Land. On the contrary, *a Plentiful Currency will occasion the Trading Produce to bear a good Price;* because, Trade being encouraged and advanced by it, there will be a much greater Demand for that Produce; which will be a great Encouragement of Husbandry and Tillage, and consequently make Land more valuable, for that many People would apply themselves to Husbandry, who probably might otherwise have sought some more profitable Employment.

As we have already experienced how much the Increase of our Currency, by what Paper Money has been made, has encouraged our Trade, particularly to instance only in one Article, *Ship-Building*, it may not be amiss to observe under this Head, what a great Advantage it must be to us as a Trading Country, that has Workmen and all the Materials proper for that Business within itself, to have Ship-Building as much as possible advanced: for every Ship, that is built here for the *English* Merchants, gains the Province her clear Value in Gold and Silver, which must otherwise have been sent Home for Returns in her Stead; and likewise, every Ship, built in and belonging to the Province, not only saves the Province her first Cost, but all the Freight, Wages, and Provisions she ever makes or requires as long as she lasts; provided Care is taken to make This her *Pay-Port*, and that she always takes Provisions with her for the whole Voyage, which may easily be done. And how considerable an Article this is yearly in our Favour, every one, the least acquainted with mercantile Affairs, must needs be sensible; for, if we could not Build ourselves, we must either purchase so many Vessels as we want from other Countries, or else Hire them to carry our Produce to Market, which would be more expensive than Purchasing, and on many other Accounts.

exceedingly to our Loss. Now as Trade in general will decline where there is not a plentiful Currency, so Ship-Building must certainly of Consequence decline where Trade is declining.

Thirdly. *Want of Money in a Country discourages Labouring and Handicrafts Men (which are the chief Strength and Support of a People) from coming to settle in it, and induces many that were settled to leave the Country, and seek Entertainment and Employment in other Places, where they can be better paid.* For what can be more disheartning to an industrious labouring Man than this, that, after he hath earned his Bread with the Sweat of his Brows, he must spend as much Time, and have near as much Fatigue in getting it, as he had to earn it? *And nothing makes more bad Paymasters than a general Scarcity of Money.* And here again is a Third Reason for Land's bearing a low Price in such a Country, because Land always increases in Value in Proportion with the Increase of the People settling on it, there being so many more Buyers; and its Value will infallibly be diminished, if the Number of its Inhabitants diminish. On the contrary, *a Plentiful Currency will encourage great Numbers of labouring and Handicrafts Men to come and Settle in the Country*, by the same Reason that a Want of it will discourage and drive them out. Now the more Inhabitants, the greater Demand for Land (as is said above), upon which it must necessarily rise in Value, and bear a better Price. The same may be said of the Value of House-Rent, which will be advanced for the same Reasons; and, by the Increase of Trade and Riches, People will be enabled to pay greater Rents. Now the Value of House-Rent rising, and Interest becoming low, many that in a Scarcity of Money

practised Usury, will probably be more inclined to Building; which will likewise sensibly enliven Business in any Place; it being an Advantage not only to *Brickmakers*, *Bricklayers*, *Masons*, *Carpenters*, *Joiners*, *Glaziers*, and several other Trades immediately employed by Building, but likewise to *Farmers*, *Brewers*, *Bakers*, *Taylors*, *Shoemakers*, *Shopkeepers*, and, in short, to every one that they lay their Money out with.

Fourthly. *Want of Money in such a Country as ours, occasions a greater Consumption of English and European Goods, in Proportion to the Number of the People, than there would otherwise be.* Because Merchants and Traders, by whom abundance of Artificers and labouring Men are employed, finding their other Affairs require what Money they can get into their hands, oblige those who work for them to take one half or perhaps two-thirds Goods in Pay. By this Means a greater Quantity of Goods are disposed of, and to a greater Value; because Working-Men and their Families are thereby induced to be more profuse and extravagant in fine Apparel and the like, than they would be if they were obliged to pay ready Money for such Things after they had earn'd and received it, or if such Goods were not imposed upon them, of which they can make no other Use. For such People cannot send the Goods they are paid with to a Foreign Market, without losing considerably by having them sold for less than they stand 'em in here; neither can they easily dispose of them at Home, because their Neighbours are generally supplied in the same Manner. But how unreasonable would it be, if some of those very Men who *have been a Means* of thus forcing People into unnecessary Expense, should be the first and most earnest in

accusing them of *Pride and Prodigality.* Now, tho' this extraordinary Consumption of Foreign Commodities may be a Profit to particular Men, yet the Country in general grows poorer by it apace. On the contrary, As *a plentiful Currency will occasion a less consumption of European Goods, in proportion to the Number of the People,* so it will be a means of making the Balance of our Trade more equal than it now is, if it does not give it in our Favour; because our own Produce will be encouraged at the same Time. And it is to be observed, that, tho' less Foreign Commodities are consumed in Proportion to the Number of People, yet this will be no Disadvantage to the Merchant, because the Number of People increasing, will occasion an increasing Demand of more Foreign Goods in the Whole.

Thus we have seen some of the many heavy Disadvantages a Country (especially such a Country as ours) must labour under, when it has not a sufficient Stock of running Cash to manage its Trade currently. And we have likewise seen some of the Advantages which accrue from having Money sufficient, or a Plentiful Currency.

The foregoing Paragraphs being well considered, we shall naturally be led to draw the following Conclusions with Regard to what Persons will probably be for or against Emitting a large Additional Sum of Paper Bills in this Province.

1. Since Men will always be powerfully influenced in their Opinions and Actions by what appears to be their particular Interest: Therefore all those, who, wanting Courage to venture in Trade, now practise Lending Money on Security for exorbitant Interest, which, in a Scarcity of Money will be done, notwithstanding the Law, I say all such will

probably be against a large Addition to our present Stock of Paper Money; because a plentiful Currency will lower Interest, and make it common to lend on less Security.

2. All those who are Possessors of large Sums of Money, and are disposed to purchase Land, which is attended with a great and sure Advantage in a growing Country as this is; I say, the Interest of all such Men will encline them to oppose a large Addition to our Money. Because their Wealth is now continually increasing by the large Interest they receive, which will enable them (if they can keep Land from rising) to purchase More some time hence than they can at present; and in the mean time all Trade being discouraged, not only those who borrow of them, but the Common People in general will be impoverished, and consequently obliged to sell More Land for less Money than they will do at present. And yet, after such Men are possessed of as much Land as they can purchase, it will then be their Interest to have Money made plentiful, because that will immediately make Land rise in Value in *their* Hands. Now it ought not to be wonder'd at, if People from the Knowledge of a Man's Interest do sometimes make a true Guess at his Designs; for *Interest*, they say, *will not Lie.*

3. Lawyers, and others concerned in Court Business, will probably many of them be against a plentiful Currency; because People in that Case will have less Occasion to run in Debt, and consequently less Occasion to go to Law and Sue one another for their Debts. Tho' I know some even among these Gentlemen, that regard the Publick Good before their own apparent private Interest.

4. All those who are any way Dependants on such Persons

as are above mentioned, whether as holding Offices, as Tenants, or as Debtors, must at least *appear* to be against a large Addition; because, if they do not, they must sensibly feel their present Interest hurt. And besides these, there are, doubtless, many well-meaning Gentlemen and Others, who, without any immediate private Interest of their own in View, are against making such an Addition, thro' an Opinion they may have of the Honesty and sound Judgment of some of their Friends that oppose it (perhaps for the Ends aforesaid), without having given it any thorough Consideration themselves. And thus it is no Wonder if there is a *powerful* Party on that Side.

On the other Hand, those who are Lovers of Trade, and delight to see Manufactures encouraged, will be for having a large Addition to our Currency: For they very well know, that People will have little Heart to advance Money in Trade, when what they can get is scarce sufficient to purchase Necessaries, and supply their Families with Provisions. Much less will they lay it out in advancing new Manufactures; nor is it possible new Manufactures should turn to any Account, where there is not Money to pay the Workmen, who are discouraged by being paid in Goods, because it is a great Disadvantage to them.

Again. Those, who are truly for the Proprietor's Interest (and have no separate Views of their own that are predominant), will be heartily for a large Addition: Because, as I have shewn above, Plenty of Money will for several Reasons make Land rise in Value exceedingly: And I appeal to those immediately concerned for the Proprietor in the Sale of his Lands, whether Land has not risen very much since the first Emission of what Paper Currency

we now have, and even by its Means. Now we all know the Proprietary has great Quantities to sell.

And since a Plentiful Currency will be so great a Cause of advancing this Province in Trade and Riches, and increasing the Number of its People; which, tho' it will not sensibly lessen the Inhabitants of *Great Britain*, will occasion a much greater Vent and Demand for their Commodities here; and allowing that the Crown is the more powerful for its Subjects increasing in Wealth and Number, I cannot think it the Interest of *England* to oppose us in making as great a Sum of Paper Money here, as we, who are the best Judges of our own Necessities, find convenient. And if I were not sensible that the Gentlemen of Trade in *England*, to whom we have already parted with our Silver and Gold, are misinformed of our Circumstances, and therefore endeavour to have our Currency stinted to what it now is, I should think the Government at Home had some Reasons for discouraging and impoverishing this Province, which we are not acquainted with.

It remains now that we enquire, *Whether a large Addition to our Paper Currency will not make it sink in Value very much.* And here it will be requisite that we first form just Notions of the Nature and Value of Money in general.

As Providence has so ordered it, that not only different Countries, but even different Parts of the same Country, have their peculiar most suitable Productions; and likewise that different Men have Geniuses adapted to Variety of different Arts and Manufactures, Therefore *Commerce*, or the Exchange of one Commodity or Manufacture for another, is highly convenient and beneficial to Mankind. As for Instance, A may be skilful in the Art of making Cloth,

and B understand the raising of Corn; A wants Corn, and B Cloth; upon which they make an Exchange with each other for as much as each has Occasion, to the mutual Advantage and Satisfaction of both.

But as it would be very tedious, if there were no other Way of general Dealing, but by an immediate Exchange of Commodities; because a Man that had Corn to dispose of, and wanted Cloth for it, might perhaps, in his Search for a Chapman to deal with, meet with twenty People that had Cloth to dispose of, but wanted no Corn; and with twenty others that wanted his Corn, but had no Cloth to suit him with; to remedy such Inconveniences, and facilitate Exchange, Men have invented MONEY, properly called a *Medium of Exchange*, because through or by its Means Labour is exchanged for Labour, or one Commodity for another. And whatever particular Thing Men have agreed to make this Medium of, whether Gold, Silver, Copper, or Tobacco, it is, to those who possess it (if they want any Thing), that very Thing which they want, because it will immediately procure it for them. It is Cloth to him that wants Cloth, and Corn to those that want Corn; and so of all other Necessaries, it *is* whatsoever it will procure. Thus he who had Corn to dispose of, and wanted to purchase Cloth with it, might sell his Corn, for its Value in this general Medium, to one who wanted Corn but had no Cloth; and with this Medium he might purchase Cloth of him that wanted no Corn, but perhaps some other Thing, as Iron it may be, which this medium will immediately procure, and so he may be said to have exchanged his Cloth for Iron; and thus the general Exchange is soon performed, to the Satisfaction of all Parties, with abundance of Facility.

For many Ages, those Parts of the World which are engaged in Commerce, have fixed upon Gold and Silver as the chief and most proper Materials for this Medium; they being in themselves valuable Metals for their Fineness, Beauty, and Scarcity. By these, particularly by Silver, it has been usual to value all Things else. But as Silver itself is of no certain permanent Value, being worth more or less according to its Scarcity or Plenty, therefore it seems requisite to fix upon Something else, more proper to be made a *Measure of Values*, and this I take to be *Labour*.[1]

By Labour may the Value of Silver be measured as well as other Things. As, Suppose one Man employed to raise Corn, while another is digging and refining Silver; at the Year's End, or at any other Period of Time, the compleat Produce of Corn, and that of Silver, are the natural Price of each other; and if one be twenty Bushels, and the other twenty Ounces, then an Ounce of that Silver is worth the Labour of raising a Bushel of that Corn. Now if by the Discovery of some nearer, more easy or plentiful Mines, a man may get Forty Ounces of Silver as easily as formerly he did Twenty, and the same Labour is still required to raise Twenty Bushels of Corn, then Two Ounces of Silver will be worth no more than the same Labour of raising one Bushel of Corn, and that Bushel of Corn will be as cheap at two Ounces, as it was before at one, *cæteris paribus*.

Thus the Riches of a Country are to be valued by the Quantity of Labour its Inhabitants are able to purchase, and not by the Quantity of Silver and Gold they possess; which will purchase more or less Labour, and therefore is

[1] Franklin states this doctrine in 1729, precisely as Adam Smith does forty-six years afterwards in *The Wealth of Nations*. — W. PHILLIPS.

more or less valuable, as is said before, according to its Scarcity or Plenty. As those Metals have grown much more plentiful in *Europe* since the discovery of *America*,[1] so they have sunk in Value exceedingly; for, to instance in *England*, formerly one Penny of Silver was worth a Days Labour, but now it is hardly worth the sixth Part of a Days Labour; because not less than Sixpence will purchase the Labour of a Man for a Day in any Part of that Kingdom; which is wholly to be attributed to the much greater Plenty of Money now in *England* than formerly. And yet perhaps *England* is in Effect no richer now than at that Time; because as much Labour might be purchas'd, or Work got done of almost any kind, for 100 l. then, as will now require or is now worth 600 l.

In the next Place let us consider the Nature of *Banks* emitting *Bills of Credit*, as they are at this Time used in *Hamburgh*, *Amsterdam*, *London*, and *Venice*.

Those Places being Seats of vast Trade, and the Payment of great Sums being for that Reason frequent, *Bills of Credit* are found very convenient in Business; because a great Sum is more easily counted in Them, lighter in Carriage, concealed in less Room, and therefore safer in Travelling or Laying up, and on many other Accounts they are very much valued. The Banks are the general Cashiers of all Gentlemen, Merchants, and great Traders in and about

[1] This passage shows, that the theory, as to the effect of the South American mines upon the rate of money prices and the reduction of the value of the precious metals, so elaborately set forth and reasoned out by Adam Smith, was quite a familiar notion when he was but six years old; the correctness of which, however, to the extent laid down by Franklin in this place, and afterwards by Smith, has of late years been gravely questioned by very respectable writers. — W. PHILLIPS.

those Cities; there they deposit their Money, and may take out Bills to the Value, for which they can be certain to have Money again at the Bank at any Time. This gives the Bills a Credit; so that in *England* they are never less valuable than Money, and in *Venice* and *Amsterdam* they are generally worth more. And the Bankers, always reserving Money in hand to answer more than the common Run of Demands (and some People constantly putting in while others are taking out), are able besides to lend large Sums, on good Security, to the Government or others, for a reasonable Interest, by which they are paid for their Care and Trouble; and the Money, which otherwise would have lain dead in their Hands, is made to circulate again thereby among the People. And thus the Running Cash of the nation is, as it were, doubled; for all great Payments being made in Bills, Money in lower Trade becomes much more plentiful; And this is an exceeding great Advantage to a Trading Country, that is not overstocked with Gold and Silver.

As those, who take Bills out of the Banks in Europe, put in Money for Security; so here, and in some of the neighbouring Provinces, we engage our Land. Which of these Methods will most effectually secure the Bills from actually sinking in Value, comes next to be considered.

Trade in general being nothing else but the Exchange of Labour for Labour, the Value of all Things is, as I have said before, most justly measured by Labour. Now suppose I put my Money into a Bank, and take out a Bill for the Value; if this Bill at the Time of my receiving it, would purchase me the Labour of one hundred Men for twenty Days, but some time after will only purchase the Labour

of the same Number of Men for fifteen Days, it is plain the Bill has sunk in Value one fourth Part. Now, Silver and Gold being of no permanent Value, and as this Bill is founded on Money, and therefore to be esteemed as such, it may be that the Occasion of this Fall is the increasing Plenty of Gold and Silver, by which Money is one fourth Part less valuable than before, and therefore one fourth more is given of it for the same Quantity of Labour; and if Land is not become more plentiful by some proportionate Decrease of the People, one fourth Part more of Money is given for the same Quantity of Land; whereby it appears, that it would have been more profitable to me to have laid that Money out in Land which I put into the Bank, than to place it there and take a Bill for it. And it is certain that the Value of Money has been continually sinking in *England* for several Ages past, because it has been continually increasing in Quantity. But if Bills could be taken out of a Bank in *Europe* on a Land Security, it is probable the Value of such Bills would be more certain and steady, because the Number of Inhabitants continues to be near the same in those Countries from age to age.

For, as Bills issued upon Money Security are Money, so Bills issued upon Land, are in effect *Coined Land.*

Therefore, (to apply the Above to our own Circumstances) if Land in this Province was falling, or any way likely to fall, it would behove the Legislature most carefully to contrive how to prevent the Bills issued upon Land from falling with it. But, as our People increase exceedingly, and will be further increased, as I have before shewn, by the Help of a large Addition to our Currency, and as Land in consequence is continually rising, So, in case no Bills are emitted

but what are upon Land Security, the Money-Acts in every Part punctually enforced and executed, the Payments of Principal and Interest being duly and strictly required, and the Principal *bonâ fide* sunk according to Law, it is absolutely impossible such Bills should ever sink below their first Value, or below the Value of the Land, on which they are founded. In short, there is so little Danger of their sinking, that they would certainly rise as the Land rises, if they were not emitted in a proper Manner for preventing it. That is, by providing in the Act, *That Payment may be made, either in those Bills, or in any other Bills made current by any Act of the Legislature of this Province;* and that the Interest, as it is received, may be again emitted in Discharge of Publick Debts; whereby circulating, it returns again into the Hands of the Borrowers, and becomes Part of their future Payments; and thus, as it is likely there will not be any Difficulty for want of Bills to pay the Office, they are hereby kept from rising above their first Value. For else, supposing there should be emitted upon mortgaged Land its full present Value in Bills; as in the Banks in *Europe* the full Value of the Money deposited is given out in Bills; and supposing the Office would take nothing but the same Sum in those Bills in Discharge of the Land; as in the Banks aforesaid the same Sum in their Bills must be brought in, in order to receive out the Money; in such Case the Bills would most surely rise in Value as the Land rises; as certainly as the Bank Bills founded on Money would fall, if that Money was falling. Thus if I were to mortgage to a Loan-Office, or Bank, a Parcel of Land now valued at 100 l. in Silver, and receive for it the like Sum in Bills, to be paid in again at the Expiration of a certain Term of Years; before which

my Land rising in Value, becomes worth 150 l. in Silver; 'Tis plain, that if I have not these Bills in Possession, and the Office will take nothing but these Bills, or else what it is now become worth in Silver, in Discharge of my Land; I say it appears plain, that those Bills will now be worth 150 l. in Silver to the Possessor, and if I can purchase them for less, in order to redeem my Land, I shall by so much be a Gainer.

I need not say any Thing to convince the Judicious that our Bills have not yet sunk, tho' there is and has been some Difference between them and Silver; because it is evident that that Difference is occasioned by the Scarcity of the latter, which is now become a Merchandize, rising and falling, like other Commodities as there is a greater or less Demand for it, or as it is more or less Plenty.

Yet farther, in order to make a true Estimate of the Value of Money, we must distinguish between Money as it is Bullion, which is Merchandize, and as by being coin'd it is made a Currency: For its Value as a Merchandize, and its Value as a Currency, are two distinct Things; and each may possibly rise and fall in some Degree independent of the other. Thus, if the Quantity of Bullion increases in a Country, it will proportionably decrease in Value; but if at the same Time the Quantity of current coin should decrease, (supposing Payments may not be made in Bullion) what Coin there is will rise in Value as a Currency, *i.e.* People will give more Labour in Manufactures for a certain Sum of ready Money.

In the same Manner must we consider a *Paper Currency* founded on Land; as it is Land, and as it is a Currency.

Money as Bullion, or as Land, is valuable by so much Labour as it costs to procure that Bullion or Land.

Money as a Currency has an Additional Value by so much Time and Labour as it saves in the Exchange of Commodities.

If, as a Currency, it saves one Fourth Part of the Time and Labour of a Country; it has, on that Account, one Fourth added to its original Value.

When there is no Money in a Country, all Commerce must be by Exchange. Now, if it takes one fourth Part of the Time and Labour of a Country, to exchange or get their Commodities exchanged; then, in computing their Value, that Labour of Exchanging must be added to the Labour of manufacturing those Commodities. But if that Time or Labour is saved by introducing Money sufficient, then the additional Value on Account of the Labour or Exchanging may be abated, and Things sold for only the Value of the Labour in making them; because the People may now in the same Time make one Fourth more in Quantity of Manufactures than they could before.

From these Considerations it may be gathered, that in all the Degrees between having no Money in a Country, and Money sufficient for the trade, it will rise and fall in Value as a Currency, in Proportion to the Decrease or Increase of its Quantity: And if there may be at some Time more than enough, the Overplus will have no Effect towards making the Currency as a Currency of less Value than when there was but enough; because such Overplus will not be used in Trade, but be some other way disposed of.

If we enquire, *How much per cent Interest ought to be required upon the Loan of these Bills*, we must consider what is the Natural Standard of Usury: And this appears to be, where the Security is undoubted, at least the Rent of so much Land as the Money lent will buy: For it cannot be

expected, that any Man will lend his Money for less than it would fetch him in as Rent if he laid it out in Land, which is the most secure Property in the World. But if the Security is casual, then a kind of Ensurance must be enterwoven with the simple natural Interest, which may advance the Usury very conscionably to any height below the Principal itself. Now among us, if the Value of Land is twenty Years Purchase, Five *per cent* is the just Rate of Interest for Money lent on undoubted Security. Yet if Money grows scarce in a Country it becomes more difficult for People to make punctual Payments of what they borrow, Money being hard to be raised; likewise Trade being discouraged and Business impeded for want of a Currency, abundance of People must be in declining Circumstances, and by these Means Security is more precarious than where Money is plenty. On such Accounts it is no wonder if People ask a greater interest for their Money than the natural Interest; and what is above is to be look'd upon as a kind of *Premium* for the Ensurance of those Uncertainties, as they are greater or less. Thus we always see, that where Money is scarce, Interest is high, and low where it is plenty. Now it is certainly the Advantage of a Country to make Interest as low as possible, as I have already shewn; and this can be done no other way than by making Money plentiful. And since, in Emitting Paper Money among us, the Office has the best of Security, the Titles to the Land being all skilfully and strictly examined and ascertained; and as it is only permitting the People by Law to coin their own Land, which costs the Government nothing, the Interest being more than enough to pay the Charges of Printing, Officers' Fees, &c., I cannot see any good Reason why

Four *per cent* to the Loan-Office should not be thought fully sufficient. As a low Interest may incline more to take Money out, it will become more plentiful in Trade; and this may bring down the common Usury, in which Security is more dubious, to the pitch it is determined at by law.

If it should be objected, *that Emitting it at so low an Interest, and on such easy Terms, will occasion more to be taken out than the Trade of the Country really requires:* It may be answered, That, as has already been shewn, there can never be so much of it emitted as to make it fall below the Land it is founded on; because no Man in his Senses will mortgage his Estate for what is of no more Value to him than That he has mortgaged, especially if the Possession of what he receives is more precarious than of what he mortgages, as that of Paper Money is when compared to Land: And if it should ever become so plenty by indiscreet Persons continuing to take out a large Overplus, above what is necessary in Trade, so as to make People imagine it would become by that Means of less Value than their mortgaged Lands, they would immediately of Course begin to pay it in again to the Office to redeem their Land, and continue to do so till there was no more left in Trade than was absolutely necessary. And thus the Proportion would find itself (tho' there were a Million too much in the Office to be let out), without giving any one the Trouble of Calculation.

It may, perhaps, be objected to what I have written concerning the Advantages of a large Addition to our Currency, *That if the People of this Province increase, and Husbandry is more followed we shall overstock the Markets with our Produce of Flower, &c.* To this it may be answered, that we can never have too many People (nor too much Money.)

For when one Branch of Trade or Business is overstocked with Hands there are the more to spare to be employed in another. So if raising Wheat proves dull, more may (if there is Money to support and carry on new Manufactures) proceed to the raising and manufacturing of Hemp, Silk, Iron, and many other Things the Country is very capable of, for which we only want People to work, and Money to pay them with.

Upon the Whole it may be observed, That it is the highest Interest of a Trading Country in general to make Money plentiful; and that it can be a Disadvantage to none that have honest Designs. It cannot hurt even the Usurers, though it should sink what they receive as Interest; because they will be proportionably more secure in what they lend; or they will have an Opportunity of employing their Money to greater Advantage to themselves as well as to the Country. Neither can it hurt those Merchants, who have great Sums outstanding in Debts in the Country, and seem on that Account to have the most plausible Reason to fear it; *to wit*, because a large Addition being made to our Currency will increase the Demand of our Exporting Produce, and by that Means raise the Price of it, so that they will not be able to purchase so much Bread or Flower with 100 l. when they shall receive it after such an Addition, as they now can, and may if there is no Addition. I say it cannot hurt even such, because they will get in their Debts just in exact Proportion so much the easier and sooner as the Money becomes plentier; and therefore, considering the Interest and Trouble saved, they will not be Losers; because it only sinks in Value as a Currency, proportionally as it becomes more plenty. It cannot hurt the Interest of *Great Britain*, as has

been shewn; and it will greatly advance the Interest of the Proprietor. It will be an Advantage to every industrious Tradesman, &c., because his Business will be carried on more freely, and Trade be universally enlivened by it. And as more Business in all Manufactures will be done, by so much as the Labour and Time spent in Exchange is saved, the Country in general will grow so much the richer.

It is nothing to the Purpose to object the wretched Fall of the Bills in *New England* and *South Carolina*, unless it might be made evident that their Currency was emitted with the same Prudence and on such good Security, as ours is; and it certainly was not.

As this Essay is wrote and published in Haste, and the Subject in itself intricate, I hope I shall be censured with Candour, if, for want of Time carefully to revise what I have written, in some Places I should appear to have express'd myself too obscurely, and in others am liable to Objections I did not foresee. I sincerely desire to be acquainted with the Truth, and on that Account shall think myself obliged to any one who will take the Pains to shew me or the Publick, where I am mistaken in my Conclusions. And as we all know there are among us several Gentlemen of acute Parts and profound Learning, who are very much against any Addition to our Money, it were to be wished that they would favour the Country with their Sentiments on this Head in Print; which, supported with Truth and good Reasoning, may probably be very convincing. And this is to be desired the rather because many People, knowing the Abilities of those Gentlemen to manage a good Cause, are apt to construe their Silence in This, as an Argument of a bad One. Had any Thing of that Kind ever yet ap-

peared, perhaps I should not have given the Publick this Trouble. But as those ingenious Gentlemen have not yet (and I doubt never will) think it worth their concern to enlighten the Minds of their erring Countrymen in this Particular, I think it would be highly commendable in every one of us, more fully to bend our Minds to the Study of *What is the true Interest of Pennsylvania;* whereby we may be enabled, not only to reason pertinently with one another; but, if Occasion requires, to transmit Home such clear Representations, as must inevitably convince our Superiors of the Reasonableness and Integrity of our Designs.

Philadelphia, April (sic) 3, 1729.

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12. PREFACE TO THE PENNSYLVANIA GAZETTE,[1] OCTOBER 2, 1729 (L. C. P.)

The Pennsylvania Gazette being now to be carry'd on by other Hands, the Reader may expect some Account of the Method we design to proceed in.

Upon a view of Chambers's great Dictionaries, from whence were taken the Materials of the *Universal Instructor in all Arts and Sciences*, which usually made the First Part of this Paper, we find that besides their containing many Things abstruse or insignificant to us, it will probably be fifty Years before the Whole can be gone thro' in this Manner of Publication. There are likewise in those Books continual

[1] In consequence of the merry war made upon him in the columns of the *Mercury*, Keimer's credit in business declined, and he was forced to sell his printing house and to go to Barbadoes. His newspaper passed into Franklin's hands, and with No. 40 (October 2, 1729) shorn of the ponderous and meaningless part of its title, *The Pennsylvania Gazette* began a new existence. The Preface announces Franklin's editorial intentions. — ED.

References from Things under one Letter of the Alphabet to those under another, which relate to the same Subject, and are necessary to explain and compleat it; these taken in their Turn may perhaps be Ten Years distant; and since it is likely that they who desire to acquaint themselves with any particular Art or Science, would gladly have the whole before them in much less time, we believe our Readers will not think such a Method of communicating Knowledge to be a proper One.

However, tho' we do not intend to continue the Publication of those Dictionaries in a regular Alphabetical Method, as has hitherto been done; yet as several Things exhibited from them in the Course of these Papers, have been entertaining to such of the Curious, who never had and cannot have the Advantage of good Libraries; and as there are many Things still behind, which being in this Manner made generally known, may perhaps become of considerable Use, by giving such Hints to the excellent natural Genius's of our Country, as may contribute either to the Improvement of our present Manufactures, or towards the Invention of new Ones; we propose from Time to Time to communicate such particular Parts as appear to be of the most general Consequence.

As to the "Religious Courtship," Part of which has been retal'd to the Publick in these Papers, the Reader may be inform'd, that the whole Book will probably in a little Time be printed and bound up by itself; and those who approve of it, will doubtless be better pleas'd to have it entire, than in this broken interrupted Manner.

There are many who have long desired to see a good News-Paper in Pennsylvania; and we hope those Gentle-

men who are able, will contribute towards the making This such. We ask Assistance, because we are fully sensible, that to publish a good News-Paper is not so easy an Undertaking as many People imagine it to be. The Author of a Gazette (in the Opinion of the Learned) ought to be qualified with an extensive Acquaintance with Languages, a great Easiness and Command of Writing and Relating Things clearly and intelligibly, and in few Words; he should be able to speak of War both by Land and Sea; be well acquainted with Geography, with the History of the Time, with the several Interests of Princes and States, the Secrets of Courts, and the Manners and Customs of all Nations. Men thus accomplish'd are very rare in this remote Part of the World; and it would be well if the Writer of these Papers could make up among his Friends what is wanting in himself.

Upon the Whole, we may assure the Publick, that as far as the Encouragement we meet with will enable us, no Care and Pains shall be omitted, that may make the Pennsylvania Gazette as agreeable and useful an Entertainment as the Nature of the Thing will allow.

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13. A DIALOGUE BETWEEN PHILOCLES AND HORATIO, MEETING ACCIDENTALLY IN THE FIELDS, CONCERNING VIRTUE AND PLEASURE[1]

Philocles. My friend *Horatio!* I am very glad to see you; prithee, how came such a Man as you alone? and

[1] From *The Pennsylvania Gazette*, June 23, 1730. See "Autobiography," Vol. I, page 343. — ED.

musing too? What Misfortune in your Pleasures has sent you to Philosophy for Relief?

Horatio. You guess very right, my dear *Philocles!* We Pleasure-hunters are never without 'em; and yet, so enchanting is the Game! we can't quit the Chace. How calm and undisturbed is your Life! How free from present Embarassments and future Cares! I know you love me, and look with Compassion upon my Conduct; Shew me then the Path which leads up to that constant and invariable Good, which I have heard you so beautifully describe, and which you seem so fully to possess.

Phil. There are few Men in the World I value more than you, *Horatio!* for amidst all your Foibles and painful Pursuits of Pleasure, I have oft observed in you an honest Heart, and a Mind strongly bent towards Virtue. I wish, from my Soul, I could assist you in acting steadily the Part of a reasonable Creature; for, if you would not think it a Paradox, I should tell you I love you better than you do yourself.

Hor. A Paradox indeed! Better than I do myself! When I love my dear self so well, that I love every Thing else for my own sake.

Phil. He only loves himself well, who rightly and judiciously loves himself.

Hor. What do you mean by that, *Philocles!* You Men of Reason and Virtue are always dealing in Mysteries, tho' you laugh at 'em when the Church makes 'em. I think he loves himself very well and very judiciously too, as you call it, who allows himself to do whatever he pleases.

Phil. What, though it be to the Ruin and Destruction of that very Self which he loves so well! That Man alone

loves himself rightly, who procures the greatest possible Good to himself thro' the whole of his Existence; and so pursues Pleasure as not to give for it more than 'tis worth.

Hor. That depends all upon Opinion. Who shall judge what the Pleasure is worth? Supposing a pleasing Form of the fair Kind strikes me so much, that I can enjoy nothing without the Enjoyment of that one Object. Or, that Pleasure in general is so favorite a Mistress, that I will take her as Men do their Wives, for better, for worse; mind no Consequences, nor regarding what's to come. Why should I not do it?

Phil. Suppose, *Horatio*, that a Friend of yours entred into the World about Two-and-Twenty, with a healthful vigorous Body, and a fair plentiful Estate of about Five Hundred Pounds a Year; and yet, before he had reached Thirty, should, by following his Pleasures, and not, as you say, duly regarding Consequences, have run out of his Estate, and disabled his Body to that Degree, that he had neither the Means nor Capacity of Enjoyment left, nor any Thing else to do but wisely shoot himself through the Head to be at rest; what would you say to this unfortunate Man's Conduct? Is it wrong by Opinion or Fancy only? Or is there really a Right and Wrong in the Case? Is not one Opinion of Life and Action juster than another? Or, one Sort of Conduct preferable to another? Or, does that miserable Son of Pleasure appear as reasonable and lovely a Being in your Eyes, as a Man who, by prudently and rightly gratifying his natural Passions, had preserved his Body in full Health, and his Estate entire, and enjoy'd both to a good old Age, and then died with a thankful Heart for the good Things he had received, and with an entire

Submission to the Will of Him who first called him into Being? Say, *Horatio!* are these Men equally wise and happy? And is every Thing to be measured by mere Fancy and Opinion, without considering whether that Fancy or Opinion be right?

Hor. Hardly so neither, I think; yet sure the wise and good Author of Nature could never make us to plague us. He could never give us Passions, on purpose to subdue and conquer 'em; nor produce this Self of mine, or any other self, only that it may be denied; for that is denying the Works of the great Creator himself. Self-denial, then, which is what I suppose you mean by Prudence, seems to me not only absurd, but very dishonourable to that Supreme Wisdom and Goodness, which is supposed to make so ridiculous and Contradictious a Creature, that must be always fighting with himself in order to be at rest, and undergo voluntary Hardships in order to be happy: Are we created sick, only to be commanded to be Sound? Are we born under one Law, our Passions, and yet bound to another, that of Reason? Answer me, *Philocles*, for I am warmly concerned for the Honour of Nature, the Mother of us all.

Phil. I find, *Horatio*, my two Characters have affrighted you; so that you decline the Trial of what is Good, by reason: And had rather make a bold Attack upon Providence; the usual Way of you Gentlemen of Fashion, who, when by living in Defiance of the eternal Rules of Reason, you have plunged yourselves into a thousand Difficulties, endeavour to make yourselves easy by throwing the Burden upon Nature. You are, *Horatio*, in a very miserable Condition indeed; for you say you can't be happy if you controul

your Passions; and you feel yourself miserable by an unrestrained Gratification of 'em; so that here's Evil, irremediable Evil, either way.

Hor. That is very true, at least it appears so to me: Pray, what have you to say, *Philocles!* in Honour of Nature or Providence; methinks I'm in Pain for her: How do you rescue her? poor Lady!

Phil. This, my dear *Horatio*, I have to say; that what you find Fault with and clamour against, as the most terrible Evil in the World, Self-denial; is really the greatest Good, and the highest Self-gratification: If indeed, you use the Word in the Sense of some weak sour Moralists, and much weaker Divines, you'll have just Reason to laugh at it; but if you take it, as understood by Philosophers and Men of Sense, you will presently see her Charms, and fly to her Embraces, notwithstanding her demure Looks, as absolutely necessary to produce even your own darling sole Good, Pleasure: For, Self-denial is never a Duty, or a reasonable Action, but as 'tis a natural Means of procuring more Pleasure than you can taste without it so that this grave, Saintlike Guide to Happiness, as rough and dreadful as she has been made to appear, is in truth the kindest and most beautiful Mistress in the World.

Hor. Prithee, *Philocles!* do not wrap yourself in Allegory and Metaphor. Why do you teaze me thus? I long to be satisfied, what this Philosophical Self-denial is; the Necessity and Reason of it: I'm impatient, and all on Fire; explain, therefore, in your beautiful, natural easy Way of Reasoning, what I'm to understand by this grave Lady of yours, with so forbidding, downcast Looks, and yet so absolutely necessary to my Pleasures. I stand ready

to embrace her; for you know, Pleasure I court under all Shapes and Forms.

Phil. Attend then, and you'll see the Reason of this Philosophical Self-denial. There can be no absolute Perfection in any Creature; because every Creature is derived, and dependent: No created Being can be All-wise, All-good, and All-powerful, because his Powers and Capacities are finite and limited; consequently whatever is created must, in its own Nature, be subject to Error, Irregularity, Excess, and Disorder. All intelligent, rational Agents find in themselves a Power of judging what kind of Beings they are; what Actions are proper to preserve 'em, and what Consequences will generally attend them, what Pleasures they are form'd for, and to what Degree their Natures are capable of receiving them. All we have to do then, *Horatio*, is to consider, when we are surpriz'd with a new Object, and passionately desire to enjoy it, whether the gratifying that Passion be consistent with the gratifying other Passions and Appetites, equal if not more necessary to us. And whether it consists with our Happiness To-morrow, next Week, or next Year; for, as we all wish to live, we are obliged by Reason to take as much Care for our future, as our present Happiness, and not build one upon the Ruins of t'other. But, if thro' the Strength and Power of a present Passion, and thro' want of attending to Consequences, we have err'd and exceeded the Bounds which Nature or Reason have set us; we are then, for our own Sakes, to refrain, or deny ourselves a present momentary Pleasure for a future, constant and durable one: So that this Philosophical Self-denial is only refusing to do an Action which you strongly desire; because 'tis inconsistent with your Health, Fortunes,

or Circumstances in the World; or, in other Words, because 'twould cost you more than 'twas worth. You would lose by it, as a Man of Pleasure. Thus you see, *Horatio!* that Self-denial is not only the most reasonable, but the most pleasant Thing in the World.

Hor. We are just coming into Town, so that we can't pursue this Argument any farther at present; you have said a great deal for Nature, Providence, and Reason: Happy are they who can follow such divine Guides.

Phil. *Horatio!* good Night; I wish you wise in your Pleasures.

Hor. I wish, *Philocles!* I could be as wise in my Pleasures as you are pleasantly Wise; your Wisdom is agreeable, your Virtue is amiable, and your Philosophy the highest Luxury. Adieu! thou enchanting Reasoner!

A SECOND DIALOGUE BETWEEN PHILOCLES AND HORATIO, CONCERNING VIRTUE AND PLEASURE[1]

Philocles. Dear *Horatio!* where hast thou been these three or four Months? What new Adventures have you fallen upon since I met you in these delightful, all-inspiring Fields, and wondred how such a Pleasure-hunter as you could bear being alone?

Horatio. O *Philocles*, thou best of Friends, because a Friend to Reason and Virtue, I am very glad to see you. Don't you remember, I told you then, that some Misfortunes in my Pleasures had sent me to Philosophy for Relief?

[1] From *The Pennsylvania Gazette*, July 9, 1730.

But now I do assure you, I can, without a Sigh, leave other Pleasures for those of Philosophy; I can hear the Word *Reason* mentioned, and Virtue praised, without Laughing. Don't I bid fair for Conversion, think you?

Phil. Very fair, *Horatio!* for I remember the Time when Reason, Virtue, and Pleasure, were the same Thing with you: When you counted nothing Good but what pleas'd, nor any thing Reasonable but what you got by; When you made a Jest of a Mind, and the Pleasures of Reflection, and elegantly plac'd your sole Happiness, like the rest of the Animal Creation, in the Gratifications of Sense.

Hor. I did so: But in our last Conversation, when walking upon the Brow of this Hill, and looking down on that broad, rapid River, and yon widely-extended beautifully-varied Plain, you taught me another Doctrine: You shewed me, that Self-denial, which above all Things I abhorred, was really the greatest Good, and the highest Self-gratification, and absolutely necessary to produce even my own darling sole Good, Pleasure.

Phil. True: I told you that Self-denial was never a Duty but when it was a natural Means of procuring more Pleasure than we could taste without it: That as we all strongly desire to live, and to live only to enjoy, we should take as much Care about our future as our present Happiness; and not build one upon the Ruins of 'tother: That we should look to the End, and regard Consequences: and if, thro' want of Attention we had err'd, and exceeded the Bounds which Nature had set us, we were then obliged, for our own Sakes, to refrain or deny ourselves a present momentary Pleasure for a future, constant, and durable Good.

Hor. You have shewn, *Philocles*, that Self-denial, which

weak or interested Men have rendred the most forbidding, is really the most delightful and amiable, the most reasonable and pleasant Thing in the World. In a Word, if I understand you aright, Self-denial is, in Truth, Self-recognising, Self-acknowledging, or Self-owning. But now, my Friend! you are to perform another Promise; and shew me the Path which leads up to that constant, durable, and invariable Good, which I have heard you so beautifully describe, and which you seem so fully to possess: Is not this Good of yours a mere Chimera? Can any Thing be constant in a World which is eternally changing! and which appears to exist by an everlasting Revolution of one Thing into another, and where every Thing without us, and every Thing within us, is in perpetual Motion? What is this constant, durable Good, then, of yours? Prithee, satisfy my Soul, for I'm all on Fire, and impatient to enjoy her. Produce this eternal blooming Goddess with never-fading Charms, and see, whether I won't embrace her with as much Eagerness and Rapture as you.

Phil. You seem enthusiastically warm, *Horatio;* I will wait till you are cool enough to attend to the sober, dispassionate Voice of Reason.

Hor. You mistake me, my dear *Philocles!* my Warmth is not so great as to run away with my Reason: it is only just raised enough to open my Faculties, and fit them to receive those eternal Truths, and that durable Good, which you so triumphantly boasted of. Begin, then; I'm prepared.

Phil. I will. I believe, *Horatio!* with all your Skepticism about you, you will allow that Good to be constant which is never absent from you, and that to be durable, which never Ends but with your Being.

Hor. Yes, go on.

Phil. That can never be the Good of a Creature, which when present, the Creature may be miserable, and when absent, is certainly so.

Hor. I think not; but pray explain what you mean; for I am not much used to this abstract Way of Reasoning.

Phil. I mean all the Pleasures of Sense. The Good of Man cannot consist in the mere Pleasures of Sense; because, when any one of those Objects which you love is absent, or can't be come at, you are certainly miserable: and if the Faculty be impair'd, though the Object be present, you can't enjoy it. So that this sensual Good depends upon a thousand Things without and within you, and all out of your Power. Can this then be the Good of Man? Say, *Horatio!* what think you, Is not this a chequer'd, fleeting, fantastical Good? Can that, in any propriety of Speech, be called the Good of Man which even, while he is tasting, he may be miserable; and which when he cannot taste, he is necessarily so? Can that be our Good, which costs us a great deal of Pains to obtain; which cloys in possessing; for which we must wait the Return of Appetite before we can enjoy again? Or, is that our Good, which we can come at without Difficulty; which is heightened by Possession, which never ends in Weariness and Disappointment; and which, the more we enjoy, the better qualified we are to enjoy on?

Hor. The latter, I think; but why do you torment me thus? *Philocles!* shew me this Good immediately.

Phil. I have shewed you what 'tis not; it is not sensual, but 'tis rational and moral Good. It is doing all the Good we can to others, by Acts of Humanity, Friendship, Gen-

erosity, and Benevolence: This is that constant and durable Good, which will afford Contentment and Satisfaction always alike, without Variation or Diminution. I speak to your Experience now, *Horatio!* Did you ever find yourself weary of relieving the Miserable? or of raising the Distressed into Life or Happiness? Or rather, don't you find the Pleasure grow upon you by Repetition, and that 'tis greater in the Reflection than in the Act itself? Is there a Pleasure upon Earth to be compared with that which arises from the Sense of making others happy? Can this Pleasure ever be absent, or ever end but with your Being? Does it not always accompany you? Doth not it lie down and rise with you? live as long as you live? give you Consolation in the Article of Death, and remain with you in that gloomy Hour, when all other Things are going to forsake you, or you them?

Hor. How glowingly you paint, *Philocles!* Methinks *Horatio* is amongst the Enthusiasts. I feel the Passion: I am enchantingly convinced; but I don't know why: Overborn by something stronger than Reason. Sure some Divinity speaks within me; but prithee, *Philocles*, give me cooly the Cause, why this rational and moral Good so infinitely excels the meer natural or sensual.

Phil. I think, *Horatio!* that I have clearly shewn you the Difference between merely natural or sensual Good, and rational or moral Good. Natural or sensual Pleasure continues no longer than the Action itself; but this divine or moral Pleasure continues when the Action is over, and swells and grows upon your Hand by Reflection: The one is inconstant, unsatisfying, of short Duration, and attended with numberless Ills; the other is constant, yields full Satis-

faction, is durable, and no Evils preceding, accompanying, or following it. But, if you enquire farther into the Cause of this Difference, and would know why the moral Pleasures are greater than the sensual; perhaps the Reason is the same as in all other Creatures, That their Happiness or chief Good consists in acting up to their chief Faculty, or that Faculty which distinguishes them from all Creatures of a different Species. The chief Faculty in a Man is his Reason; and consequently his chief Good; or that which may be justly called his Good, consists not merely in Action, but in reasonable Action. By reasonable Actions, we understand those Actions which are preservative of the human Kind, and naturally tend to produce real and unmixed Happiness; and these Actions, by way of Distinction, we call Actions morally Good.

Hor. You speak very clearly, *Philocles!* but, that no Difficulty may remain upon my Mind, pray tell me what is the real Difference between natural Good and Ill, and moral Good and Ill? for I know several People who use the Terms without Ideas.

Phil. That may be: The Difference lies only in this; that natural Good and Ill is Pleasure and Pain: Moral Good and Ill is Pleasure or Pain produced with Intention and Design; for 'tis the Intention only that makes the Agent morally Good or Bad.

Hor. But may not a Man, with a very good Intention, do an ill Action?

Phil. Yes, but, then he errs in his Judgment, tho' his Design be good. If his Error is inevitable, or such as, all Things considered, he could not help, he is inculpable: But if it arose through want of Diligence in forming his

Judgment about the Nature of human Actions, he is immoral and culpable.

Hor. I find, then, that in order to please ourselves rightly, or to do good to others morally, we should take great Care of our Opinions.

Phil. Nothing concerns you more; for, as the Happiness or real Good of Men consists in right Action, and right Action cannot be produced without right Opinion, it behoves us, above all Things in this World, to take Care that our Opinions of Things be according to the Nature of Things. The Foundation of all Virtue and Happiness is Thinking rightly. He who sees an Action is right, that is, naturally tending to Good, and does it because of that Tendency, he only is a moral Man; and he alone is capable of that constant, durable, and invariable Good, which has been the Subject of this Conversation.

Hor. How, my dear philosophical Guide, shall I be able to know, and determine certainly, what is Right and Wrong in Life?

Phil. As easily as you distinguish a Circle from a Square, or Light from Darkness. Look, *Horatio*, into the sacred Book of Nature; read your own Nature, and view the Relation which other Men stand in to you, and you to them; and you'll immediately see what constitutes human Happiness, and consequently what is Right.

Hor. We are just coming into Town, and can say no more at present. You are my good Genius, *Philocles*. You have shewed me what is good. You have redeemed me from the Slavery and Misery of Folly and Vice, and made me a free and happy Being.

Phil. Then I am the happiest Man in the World.

Be steady, *Horatio!* Never depart from Reason and Virtue.

Hor. Sooner will I lose my Existence. Good Night, *Philocles.*

Phil. Adieu! dear *Horatio!*

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14. A WITCH TRIAL AT MOUNT HOLLY[1]

"SATURDAY last, at Mount-Holly, about 8 Miles from this Place[2] near 300 People were gathered together to see an Experiment or two tried on some Persons accused of Witchcraft. It seems the Accused had been charged with making their Neighbours' Sheep dance in an uncommon Manner, and with causing Hogs to speak and sing Psalms, etc., to the great Terror and Amazement of the king's good and peaceable Subjects in this Province; and the Accusers, being very positive that if the Accused were weighed in Scales against a Bible, the Bible would prove too heavy for them; or that, if they were bound and put into the River they would swim; the said Accused, desirous to make Innocence appear, voluntarily offered to undergo the said Trials if 2 of the most violent of their Accusers would be tried with them. Accordingly the Time and Place was agreed on and advertised about the Country; The Accusers were 1 Man and 1 Woman: and the Accused the same. The Parties being met and the People got together, a grand Consultation was held, before they proceeded to Trial; in which it was agreed to use the Scales first; and a Committee of Men were appointed to search the Men, and a Committee of

[1] From *The Pennsylvania Gazette*, October 22, 1730.

[2] Burlington, New Jersey.

Women to search the Women, to see if they had any Thing of Weight about them, particularly Pins. After the Scrutiny was over a huge great Bible belonging to the Justice of the Place was provided, and a Lane through the Populace was made from the Justice's House to the Scales, which were fixed on a Gallows erected for that Purpose opposite to the House, that the Justice's Wife and the rest of the Ladies might see the Trial without coming amongst the Mob, and after the Manner of Moorfields a large Ring was also made. Then came out of the House a grave, tall Man carrying the Holy Writ before the supposed Wizard etc, (as solemnly as the Sword-bearer of London before the Lord Mayor) the Wizard was first put in the Scale, and over him was read a Chapter out of the Books of Moses, and then the Bible was put in the other Scale, (which, being kept down before) was immediately let go; but, to the great Surprize of the Spectators, Flesh and Bones came down plump, and outweighed that great good Book by abundance. After the same Manner the others were served, and their Lumps of Mortality severally were too heavy for Moses and all the Prophets and Apostles. This being over, the Accusers and the rest of the Mob, not satisfied with this Experiment, would have the Trial by Water. Accordingly a most solemn Procession was made to the Mill-pond, where both Accused and Accusers being stripped (saving only to the Women their Shifts) were bound Hand and Foot and severally placed in the Water, lengthways, from the Side of a Barge or Flat, having for Security only a Rope about the Middle of each, which was held by some in the Flat. The accused man being thin and spare with some Difficulty began to sink at last; but the rest, every one of them, swam

very light upon the Water. A Sailor in the Flat jump'd out upon the Back of the Man accused thinking to drive him down to the Bottom; but the Person bound, without any Help, came up some time before the other. The Woman Accuser being told that she did not sink, would be duck'd a second Time; when she swam again as light as before. Upon which she declared, That she believed the Accused had bewitched her to make her so light, and that she would be duck'd again a Hundred Times but she would duck the Devil out of her. The Accused Man, being surpriz'd at his own Swimming, was not so confident of his Innocence as before, but said, 'If I am a Witch, it is more than I know.' The more thinking Part of the Spectators were of Opinion that any Person so bound and placed in the Water (unless they were mere Skin and Bones) would swim, till their Breath was gone, and their Lungs fill'd with Water. But it being the general Belief of the Populace that the Women's shifts and the Garters with which they were bound help'd to support them, it is said they are to be tried again the next warm Weather, naked."

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15. AN APOLOGY FOR PRINTERS[1]

BEING frequently censur'd and condemn'd by different Persons for printing Things which they say ought not to be printed, I have sometimes thought it might be necessary to make a standing Apology for my self, and publish it once a Year, to be read upon all Occasions of that Nature. Much

[1] From *The Pennsylvania Gazette*, June 10, 1731.

Business has hitherto hindered the execution of this Design; but having very lately given extraordinary Offence by printing an Advertisement with a certain N. B. at the End of it, I find an Apology more particularly requisite at this Juncture, tho' it happens when I have not yet Leisure to write such a Thing in the proper Form, and can only in a loose manner throw those Considerations together which should have been the Substance of it.

I request all who are angry with me on the Account of printing things they don't like, calmly to consider these following Particulars.

1. That the Opinions of Men are almost as various as their Faces; an Observation general enough to become a common Proverb, *So many Men so many Minds.*

2. That the Business of Printing has chiefly to do with Mens Opinions; most things that are printed tending to promote some, or oppose others.

3. That hence arises the peculiar Unhappiness of that Business, which other Callings are no way liable to; they who follow Printing being scarce able to do any thing in their way of getting a Living, which shall not probably give Offence to some, and perhaps to many; whereas the Smith, the Shoemaker, the Carpenter, or the Man of any other Trade, may work indifferently for People of all Persuasions, without offending any of them: and the Merchant may buy and sell with Jews, Turks, Hereticks and Infidels of all sorts, and get Money by every one of them, without giving Offence to the most orthodox, of any sort; or suffering the least Censure or Ill will on the Account from any Man whatever.

4. That it is as unreasonable in any one Man or Set of

Men to expect to be pleas'd with every thing that is printed, as to think that nobody ought to be pleas'd but themselves.

5. Printers are educated in the Belief, that when Men differ in Opinion, both Sides ought equally to have the Advantage of being heard by the Publick; and that when Truth and Error have fair Play, the former is always an overmatch for the latter: Hence they chearfully serve all contending Writers that pay them well, without regarding on which side they are of the Question in Dispute.

6. Being thus continually employ'd in serving both Parties, Printers naturally acquire a vast Unconcernedness as to the right or wrong Opinions contain'd in what they print; regarding it only as the Matter of their daily labour: They print things full of Spleen and Animosity, with the utmost Calmness and Indifference, and without the least Ill-will to the Persons reflected on; who nevertheless unjustly think the Printer as much their Enemy as the Author, and join both together in their Resentment.

7. That it is unreasonable to imagine Printers approve of every thing they print, and to censure them on any particular thing accordingly; since in the way of their Business they print such great variety of things opposite and contradictory. It is likewise as unreasonable what some assert, "That Printers ought not to print any Thing but what they approve;" since if all of that Business should make such a Resolution, and abide by it, an End would thereby be put to Free Writing, and the World would afterwards have nothing to read but what happen'd to be the Opinions of Printers.

8. That if all Printers were determin'd not to print any

thing till they were sure it would offend no body, there would be very little printed.

9. That if they sometimes print vicious or silly things not worth reading, it may not be because they approve such things themselves, but because the People are so viciously and corruptly educated that good things are not encouraged. I have known a very numerous Impression of Robin Hood's Songs go off in this Province at 2s. per Book, in less than a Twelvemonth; when a small Quantity of David's Psalms (an excellent Version) have lain upon my Hands above twice the Time.

10. That notwithstanding what might be urg'd in behalf of a Man's being allow'd to do in the Way of his Business whatever he is paid for, yet Printers do continually discourage the Printing of great Numbers of bad things, and stifle them in the Birth. I my self have constantly refused to print anything that might countenance Vice, or promote Immorality; tho' by complying in such Cases with the corrupt Taste of the Majority I might have got much Money. I have also always refus'd to print such things as might do real Injury to any Person, how much soever I have been solicited, and tempted with Offers of Great Pay; and how much soever I have by refusing got the Ill-will of those who would have employ'd me. I have hitherto fallen under the Resentment of large Bodies of Men, for refusing absolutely to print any of their Party or Personal Reflections. In this Manner I have made my self many Enemies, and the constant Fatigue of denying is almost insupportable. But the Publick being unacquainted with all this, whenever the poor Printer happens either through Ignorance or much Persuasion, to do any thing

that is generally thought worthy of Blame, he meets with no more Friendship or Favour on the above Account, than if there were no Merit in't at all. Thus, as Waller says,

> Poets lose half the Praise they would have got
> Were it but known what they discreetly blot;

Yet are censur'd for every bad Line found in their Works with the utmost Severity.

I come now to the Particular Case of the N. B. above mention'd, about which there has been more Clamour against me, than ever before on any other Account. — In the Hurry of other Business an Advertisement was brought to me to be printed; it signified that such a Ship lying at such a Wharff, would sail for Barbadoes in such a Time, and that Freighters and Passengers might agree with the Captain at such a Place; so far is what's common: But at the Bottom this odd Thing was added, "N. B. No Sea Hens nor Black Gowns will be admitted on any Terms." I printed it, and receiv'd my Money; and the Advertisement was stuck up round the Town as usual. I had not so much Curiosity at that time as to enquire the Meaning of it, nor did I in the least imagine it would give so much Offence. Several good Men are very angry with me on this Occasion; they are pleas'd to say I have too much Sense to do such things ignorantly; that if they were Printers they would not have done such a thing on any Consideration; that it could proceed from nothing but my abundant Malice against Religion and the Clergy. They therefore declare they will not take any more of my Papers, nor have any farther Dealings with me; but will hinder me of all the Custom they can. All this is very hard!

I believe it had been better if I had refused to print the said Advertisement. However, 'tis done, and cannot be revok'd. I have only the following few Particulars to offer, some of them in my behalf, by way of Mitigation, and some not much to the Purpose; but I desire none of them may be read when the Reader is not in a very good Humour.

1. That I really did it without the least Malice, and imagin'd the N. B. was plac'd there only to make the Advertisement star'd at, and more generally read.

2. That I never saw the Word Sea-Hens before in my Life; nor have I yet ask'd the meaning of it; and tho' I had certainly known that Black Gowns in that place signified the Clergy of the Church of England, yet I have that confidence in the generous good Temper of such of them as I know, as to be well satisfied such a trifling mention of their Habit gives them no Disturbance.

3. That most of the Clergy in this and the neighbouring Provinces, are my Customers, and some of them my very good Friends; and I must be very malicious indeed, or very stupid, to print this thing for a small Profit, if I had thought it would have given them just Cause of Offence.

4. That if I had much Malice against the Clergy, and withal much Sense; 'tis strange I never write or talk against the Clergy myself. Some have observed that 'tis a fruitful Topic, and the easiest to be witty upon of all others; yet I appeal to the Publick that I am never guilty this way, and to all my Acquaintances as to my Conversation.

5. That if a Man of Sense had Malice enough to desire to injure the Clergy, this is the foolishest Thing he could possibly contrive for that Purpose.

6. That I got Five Shillings by it.

7. That none who are angry with me would have given me so much to let it alone.

8. That if all the People of different Opinions in this Province would engage to give me as much for not printing things they don't like, as I can get by printing them, I should probably live a very easy Life; and if all Printers were everywhere so dealt by, there would be very little printed.

9. That I am oblig'd to all who take my Paper, and am willing to think they do it out of meer Friendship. I only desire they would think the same when I deal with them. I thank those who leave off, that they have taken it so long. But I beg they would not endeavour to dissuade others, for that will look like Malice.

10. That 'tis impossible any Man should know what he would do if he was a Printer.

11. That notwithstanding the Rashness and Inexperience of Youth, which is most likely to be prevail'd with to do things that ought not to be done; yet I have avoided printing such Things as usually give Offence either to Church or State, more than any Printer that has followed the Business in this Province before.

12. And lastly, That I have printed above a Thousand Advertisements which made not the least mention of *Sea-Hens* or *Black Gowns;* and this being the first Offence, I have the more Reason to expect Forgiveness.

I take leave to conclude with an old Fable, which some of my Readers have heard before, and some have not.

"A certain well-meaning Man and his Son, were travelling towards a Market Town, with an Ass which they had to sell. The Road was bad; and the old Man therefore rid, but the Son went a-foot. The first Passenger they

met, asked the Father if he was not ashamed to ride by himself, and suffer the poor Lad to wade along thro' the Mire; this induced him to take up his Son behind him: He had not travelled far, when he met others, who said, they are two unmerciful Lubbers to get both on the Back of that poor Ass, in such a deep Road. Upon this the old Man gets off, and let his Son ride alone. The next they met called the Lad a graceless, rascally young Jackanapes, to ride in that Manner thro' the Dirt, while his aged Father trudged along on Foot; and they said the old Man was a Fool, for suffering it. He then bid his Son come down, and walk with him, and they travell'd on leading the Ass by the Halter; 'till they met another Company, who called them a Couple of senseless Blockheads, for going both on Foot in such a dirty Way, when they had an empty Ass with them, which they might ride upon. The old Man could bear no longer; My Son, said he, it grieves me much that we cannot please all these People. Let me throw the Ass over the next Bridge, and be no further troubled with him."

Had the old Man been seen acting this last Resolution, he would probably have been called a Fool for troubling himself about the different Opinions of all that were pleas'd to find Fault with him: Therefore, tho' I have a Temper almost as complying as his, I intend not to imitate him in this last Particular. I consider the Variety of Humors among Men, and despair of pleasing every Body; yet I shall not therefore leave off Printing. I shall continue my Business. I shall not burn my Press and melt my Letters.

16. TO MRS. JANE MECOM[1]

Jane Franklin was married to Edward Mecom, of Boston, July 27, 1727.

PHILADELPHIA, June 19, 1731.

DEAR SISTER,

Yours of May 26th I received, with the melancholy news of the death of sister Davenport, a loss without doubt regretted by all that knew her, for she was a good woman.[2] Her friends ought, however, to be comforted that they have enjoyed her so long, and that she has passed through the world happily, having never had any extraordinary misfortune or notable affliction, and that she is now secure in rest, in the place provided for the virtuous. I had before heard of the death of your first child, and am pleased that the loss is in some measure made up to you by the birth of a second.

We have had the smallpox here lately, which raged violently while it lasted. There have been about fifty persons inoculated, who all recovered except a child of the doctor's upon whom the smallpox appeared within a day or two after the operation, and who is therefore thought to have been certainly infected before. In one family in my neighbourhood there appeared a great mortality. Mr. George Claypoole (a descendant of Oliver Cromwell)[3] had, by industry, acquired a great estate, and being in excellent business, a merchant, would probably have doubled it, had

[1] Printed from "A Collection of the Familiar Letters of Benjamin Franklin." Boston (Jared Sparks), 1833.

[2] Sarah Franklin, born January 9, 1699, married to Joseph Davenport, and died May 23, 1731.

[3] Elizabeth, daughter of Oliver Cromwell, married John Claypoole, whose brother George established the family of that name in Philadelphia. — ED.

he lived according to the common course of years. He died first, suddenly; within a short time died his best negro; then one of his children; then a negro woman; then two children more, buried at the same time; then two more; so that I saw two double buryings come out of the house in one week. None were left in the family, but the mother and one child, and both their lives till lately despaired of; so that all the father's wealth, which everybody thought, a little while ago, had heirs enough, and no one would have given sixpence for the reversion, was in a few weeks brought to the greatest probability of being divided among strangers; so uncertain are all human affairs. The dissolution of this family is generally ascribed to an imprudent use of quicksilver in the cure of the itch, Mr. Claypoole applying it as he thought proper, without consulting a physician for fear of charges; and the smallpox coming upon them at the same time made their case desperate.

But what gives me the greatest concern, is the account you give me of my sister Holmes's[1] misfortune. I know a cancer in the breast is often thought incurable; yet we have here in town a kind of shell made of some wood, cut at a proper time, by some man of great skill, (as they say,) which has done wonders in that disease among us, being worn for some time on the breast. I am not apt to be superstitiously fond of believing such things, but the instances are so well attested, as sufficiently to convince the most incredulous.

This, if I have interest enough to procure, as I think I have, I will borrow for a time, and send it to you, and hope the doctors you have will at least allow the experiment to

[1] Mary Franklin, born September 26, 1694, married Robert Holmes.

be tried, and shall rejoice to hear it has the accustomed effect.

You have mentioned nothing in your letter of our dear parents; but I conclude they are well, because you say nothing to the contrary. I want to hear from sister Dowse,[1] and to know of her welfare, as also of my sister Lydia,[2] who I hear is lately married. I intended to have visited you this summer, but printing the paper money here has hindered me near two months, and our Assembly will sit the 2d of August next, at which time I must not be absent; but I hope to see you this fall. I am your affectionate brother, B. FRANKLIN.

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17. LETTER FROM ANTHONY AFTERWIT[3]

MR. GAZETTEER,

I am an honest Tradesman, who never meant Harm to anyBody. My Affairs went on smoothly while a Batchelor; but of late I have met with some Difficulties, of which I take the Freedom to give you an Account.

About the Time I first address'd my present Spouse, her Father gave out in Speeches, that if she married a Man he liked, he would give with her £200 on the Day of Marriage. 'Tis true he never said so to me, but he always receiv'd me very kindly at his House, and openly countenanc'd my Courtship. I form'd several fine Schemes what to do with this same £200, and in some Measure

[1] Elizabeth (Franklin) Dowse, eldest child of Josiah and Anne Franklin, born at Ecton, March 2, 1677.

[2] Lydia Franklin, born August 8, 1708, married Robert Scott, 1731.

[3] From *The Pennsylvania Gazette*, July 10, 1732.

neglected my Business on that Account: But unluckily it came to pass, that when the old Gentleman saw I was pretty well engag'd, and that the Match was too far gone to be easily broke off; he, without any Reason given, grew very angry, forbid me the House, and told his Daughter, that if she married me he would not give her a Farthing. However, (as he foresaw) we were not to be disappointed in that Manner, but, having stole a Wedding, I took her home to my House, where we were not in quite so poor a Condition as the Couple describ'd in the Scotch Song, who had

> "Neither Pot nor Pan,
> But four bare Legs together,"

for I had a House tolerably furnished for an ordinary Man before. No thanks to Dad, who, I understand, was very much pleased with his politick Management. And I have since learn'd, that there are other old Curmudgeons (so called) besides him, who have this Trick to marry their Daughters, and yet keep what they might well spare, till they can keep it no longer; But this by way of Digression; a Word to the Wise is enough.

I soon saw, that with Care and Industry we might live tolerably easy and in Credit with our Neighbours; But my Wife had a strong Inclination to be a Gentlewoman. In Consequence of this, my old-fashioned Looking-Glass was one Day broke, as she said, *No Mortal could tell which way*. However, since we could not be without a Glass in the Room, "My Dear," says she, "we may as well buy a large fashionable One, that Mr. Such-a-one has to sell; It will cost but little more than a common Glass, and will be much handsomer and more creditable." Accordingly,

the Glass was bought and hung against the Wall: But in a Week's time I was made sensible, by little and little, that *the Table was by no means suitable to such a Glass.* And a more proper Table being procur'd, my Spouse, who was an excellent Contriver, inform'd me where we might have very handsome Chairs *in the Way;* and thus by Degrees I found all my old Furniture stow'd up in the Garret, and every thing below alter'd for the better.

Had we stopp'd here, it might have done well enough; but my Wife being entertain'd with Tea by the Good Women she visited, we could do no less than the like when they visited us; and so we got a Tea-Table with all its Appurtenances of China and Silver. Then my Spouse unfortunately overwork'd herself in washing the House, so that we could do no longer without a Maid. Besides this, it happened frequently, that when I came home at One, the Dinner was but just put in the Pot, and *my Dear thought really it had been but Eleven*: At other Times, when I came at the same Hour, *She wondered I would stay so long, for Dinner was ready and had waited for me these two Hours.* These Irregularities occasioned by mistaking the Time, convinced me, that it was absolutely necessary *to buy a Clock*, which my Spouse observ'd was *a great Ornament to the Room!* And lastly, to my Grief, she was frequently troubled with some Ailment or other, and *nothing did her so much Good as Riding; And these Hackney Horses were such wretched ugly Creatures that* — I bought a very fine pacing Mare, which cost £20; and hereabouts Affairs have stood for some Months past.

I could see all along, that this Way of Living was utterly inconsistent with my Circumstances, but had not Resolu-

tion enough to help it. Till lately, receiving a very severe Dun, which mention'd the next Court, I began in earnest to project Relief. Last Monday, my Dear went over the River to see a Relation and stay a Fortnight, because she could not bear the Heat of the Town. In the Interim I have taken my Turn to make Alterations; viz, I have turn'd away the Maid, Bag and Baggage, (for what should we do with a Maid, who have except my Boy none but ourselves?) I have sold the fine Pacing Mare, and bought a good Milch Cow with £3 of the Money. I have dispos'd of the Tea Table, and put a Spinning-Wheel in its Place, which methinks looks very pretty: Nine empty Canisters I have stuff'd with Flax, and with some of the Money of the Tea-Furniture I have bought a Set of Knitting-Needles; for to tell you a truth, which I would have go no farther, *I begin to want Stockings.* The stately Clock I have transform'd into an Hour-Glass, by which I have gain'd a good round Sum, and one of the Pieces of the old Looking-Glass, squar'd and fram'd, supplies the Place of the Great One, which I have convey'd into a Closet, where it may possibly remain some Years. In short, the Face of Things is quite changed; and I am mightily pleased when I look at my Hour-Glass. What an Ornament it is to the Room! I have paid my Debts and find Money in my Pocket. I expect my Dame home next Friday, and, as your Paper is taken in at the House where she is, I hope the Reading of this will prepare her Mind for the above surprizing Revolutions. If she can conform to this new Scheme of Living, we shall be the happiest Couple perhaps in the Province, and by the Blessing of God may soon be in thriving Circumstances. I have reserv'd the great Glass, because I know her Heart is set

upon it; I will allow her, when she comes in, to be taken suddenly ill with *the Head-ach, the Stomach-ach, Fainting Fits*, or whatever other Disorder she may think more proper, and she may retire to Bed as soon as she pleases: But, if I do not find her in perfect Health, both of Body and Mind, the next Morning, away goes the aforesaid Great Glass, with several other Trinkets I have no Occasion for, to the Vendue that very Day. Which is the irrevocable Resolution

Of, Sir, Her loving Husband, and
Your very humble Servant,
ANTHONY AFTERWIT.

Postscript. You know we can return to our former Way of Living, when we please, if Dad will be at the Expence of it.

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18. LETTER FROM CELIA SINGLE[1]

MR. GAZETTEER,

I must needs tell you, that some of the Things you print do more Harm than Good; particularly I think so of my Neighbour the Tradesman's Letter, in one of your late Papers, which has broken the Peace of several Families, by causing Difference between Men and their Wives: I shall give you one Instance, of which I was an Eye and Ear Witness.

Happening last Wednesday Morning to be in at Mrs. C—ss's, when her Husband return'd from Market, among other Things which he had bought he show'd her some Balls of Thread. "My Dear," says he, "I like mightily those Stockings, which I yesterday saw Neighbour Afterwit

[1] From *The Pennsylvania Gazette*, July 24, 1732.

knitting for her Husband, of Thread of her own Spinning. I should be glad to have some such stockins myself: I understand that your Maid Mary is a very good Knitter, and seeing this Thread in Market, I have bought it, that the Girl may make a Pair or two for me." Mrs. Careless was just then at the Glass, dressing her Head, and turning about with the Pins in her Mouth, "Lord, Child," says she, "are you crazy? What Time has Mary to knit? Who must do the Work, I wonder, if you set her to Knitting?" "Perhaps, my Dear," says he, "you have a mind to knit 'em yourself; I remember, when I courted you, I once heard you say, that you had learn'd to knit of your Mother." "I knit Stockins for you!" says she; "not I truly! There are poor Women enough in Town, that can knit; if you please, you may employ them." "Well, but my Dear," says he, "you know *a penny sav'd is a penny got*, A pin a day is a groat a year, every little makes a muckle, and there is neither Sin nor Shame in Knitting a pair of Stockins; why should you express such a mighty Aversion to it? As to *poor* Women, you know we are not People of Quality, we have no Income to maintain us but what arises from my Labour and Industry: Methinks you should not be at all displeas'd, if you have an Opportunity to get something as well as myself."

"I wonder," says she, "how you can propose such a thing to me; did not you always tell me you would maintain me like a Gentlewoman? If I had married Captain ——, he would have scorn'd even to mention Knitting of Stockins" "Prithee," says he, (a little nettled,) "what do you tell me of your Captains? If you could have had him, I suppose you would, or perhaps you did not very well like him. If

I did promise to maintain you like a Gentlewoman, I suppose 'tis time enough for that, when you know how to behave like one; Meanwhile 'tis your Duty to help make me able. How long, d'ye think, I can maintain you at your present Rate of Living?" "Pray," says she, (somewhat fiercely, and dashing the Puff into the Powder-Box,) "don't use me after this Manner, for I assure you I won't bear it. This is the Fruit of your poison Newspapers; there shall come no more here, I promise you." "Bless us," says he, "what an unaccountable thing is this? Must a Tradesman's Daughter, and the Wife of a Tradesman, necessarily and instantly be a Gentlewoman? You had no Portion; I am forc'd to work for a Living; you are too great to do the like; there's the Door, go and live upon your Estate, if you can find it; in short, I don't desire to be troubled w' ye."

What Answer she made, I cannot tell; for, knowing that a Man and his Wife are apt to quarrel more violently when before Strangers, than when by themselves, I got up and went out hastily: But I understood from Mary, who came to me of an Errand in the Evening, that they dined together pretty peaceably, (the Balls of Thread that had caused the Difference being thrown into the Kitchen Fire,) of which I was very glad to hear.

I have several times in your Paper seen severe Reflections upon us Women, for Idleness and Extravagance, but I do not remember to have once seen any such Animadversions upon the Men. If I were dispos'd to be censorious, I could furnish you with Instances enough. I might mention Mr. Billiard, who spends more than he earns at the Green Table, and would have been in Jail long since, were it not for his industrious Wife: Mr. Husslecap, who, often all day long,

leaves his Business for the rattling of Half-pence, in a certain Alley: Mr. Finikin, who has seven different Suits of fine cloaths, and wears a Change every Day, while his Wife and Children sit at home half naked: Mr. Crownhim, who is always dreaming over the Chequer-Board, and cares not how the World goes, so he gets the game: Mr. T'otherpot, the Tavern-haunter; Mr. Bookish, the everlasting Reader; Mr. Toot-a-toot, and several others, who are mighty diligent at any thing beside their Business. I say, if I were disposed to be censorious, I might mention all these and more, but I hate to be thought a Scandalizer of my Neighbours, and therefore forbear; and for your part, I would advise you for the future to entertain your Readers with something else, besides People's Reflections upon one another; for remember, that there are Holes enough to be pick'd in your Coat, as well as others, and those that are affronted by the Satyrs you may publish, will not consider so much who *wrote* as who *printed:* Take not this Freedom amiss from

Your Friend and Reader,

CELIA SINGLE.

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19. LETTER FROM ALICE ADDERTONGUE [1]

MR. GAZETTEER,

I was highly pleased with your last Week's Paper upon SCANDAL, as the uncommon Doctrine therein preach'd is agreeable both to my Principles and Practice, and as it was published very seasonably to reprove the Impertinence of a Writer in the foregoing Thursday's *Mercury*, who, at the Conclusion of one of his silly Paragraphs, laments forsooth,

[1] From *The Pennsylvania Gazette*, September 12, 1732.

that the Fair Sex are so peculiarly guilty of this enormous Crime: Every Blockhead, ancient and modern, that could handle a Pen, has, I think, taken upon him to cant in the same senseless Strain. If to *scandalize* be really a Crime, what do these Puppies mean? They describe it, they dress it up in the most odious, frightful, and detestable Colours, they represent it as the worst of Crimes, and then roundly and charitably charge the whole Race of Womankind with it. Are not they then guilty of what they condemn, at the same time that they condemn it? If they accuse us of any other Crime, they must necessarily *scandalize* while they do it; but to *scandalize* us with being guilty of Scandal, is in itself an egregious Absurdity, and can proceed from nothing but the most consummate Impudence in conjunction with the most profound Stupidity.

This, supposing, as they do, that to scandalize is a Crime; which you have convinc'd all reasonable People is an Opinion absolutely erroneous. Let us leave, then, these Ideot Mock-Moralists, while I entertain you with some Account of my Life and Manners.

I am a young Girl of about thirty-five, and live at present with my Mother. I have no Care upon my Head of getting a Living, and therefore find it my Duty, as well as Inclination, to exercise my Talent at *Censure*, for the Good of my Country-Folks. There was, I am told, a certain generous Emperor, who, if a Day had passed over his Head in which he had conferred no Benefit on any Man, used to say to his Friends, in Latin, *Diem perdidi*, that is, it seems, *I have lost a Day*. I believe I should make use of the same Expression, if it were possible for a Day to pass in which I had not, or miss'd, an Opportunity to scandalize somebody:

But, Thanks be praised, no such Misfortune has befel me these dozen Years.

Yet, whatever Good I may do, I cannot pretend that I first entred into the Practice of this Virtue from a Principle of Publick Spirit; for I remember, that, when a Child, I had a violent Inclination to be ever talking in my own Praise; and being continually told that it was ill Manners, and once severely whipt for it, the confin'd Stream form'd itself a new Channel, and I began to speak for the future in the Dispraise of others. This I found more agreeable to Company, and almost as much so to myself: for what great Difference can there be, between putting yourself up, or putting your Neighbour down? *Scandal*, like other Virtues, is in part its own Reward, as it gives us the Satisfaction of making ourselves appear better than others, or others no better than ourselves.

My Mother, good Woman, and I, have heretofore differ'd upon this Account. She argu'd, that Scandal spoilt all good Conversation; and I insisted, that without it there would be no such Thing. Our Disputes once rose so high, that we parted Tea-Tables, and I concluded to entertain my Acquaintance in the Kitchin. The first Day of this Separation we both drank Tea at the same Time, but she with her Visitors in the Parlor. She would not hear of the least Objection to any one's Character, but began a new sort of Discourse in some such queer philosophical Manner as this; "I am mightily pleas'd sometimes," says she, "when I observe and consider, that the World is not so bad as People out of humour imagine it to be. There is something amiable, some good Quality or other, in every body. If we were only to speak of People that are least respected,

there is such a one is very dutiful to her Father, and methinks has a fine Set of Teeth; such a one is very respectful to her Husband; such a one is very kind to her poor Neighbours, and besides has a very handsome Shape; such a one is always ready to serve a Friend, and in my Opinion there is not a Woman in Town that has a more agreeable Air and Gait." This fine kind of Talk, which lasted near half an Hour, she concluded by saying, "I do not doubt but every one of you have made the like Observations, and I should be glad to have the Conversation continu'd upon this Subject." Just at that Juncture I peep'd in at the Door, and never in my Life before saw such a Set of simple vacant Countenances. They looked somehow neither glad, nor sorry, nor angry, nor pleas'd, nor indifferent, nor attentive; but (excuse the Simile) like so many blue wooden images of Rie Doe. I in the Kitchin had already begun a ridiculous Story of Mr. ——'s Intrigue with his Maid, and his Wife's Behaviour upon the Discovery; at some Passages we laugh'd heartily, and one of the gravest of Mama's Company, without making any Answer to her Discourse, got up *to go and see what the Girls were so merry about:* She was follow'd by a Second, and shortly after by a Third, till at last the old Gentlewoman found herself quite alone, and, being convinc'd that her Project was impracticable, came herself and finish'd her Tea with us; ever since which *Saul also has been among the Prophets*, and our Disputes lie dormant.

By Industry and Application, I have made myself the Centre of all the *Scandal* in the Province, there is little stirring, but I hear of it. I began the World with this Maxim, that no Trade can subsist without Returns; and accordingly, whenever I receiv'd a good Story, I endeavour'd

to give two or a better in the Room of it. My Punctuality in this Way of Dealing gave such Encouragement, that it has procur'd me an incredible deal of Business, which without Diligence and good Method it would be impossible for me to go through. For, besides the Stock of Defamation thus naturally flowing in upon me, I practise an Art, by which I can pump Scandal out of People that are the least enclin'd that way. Shall I discover my Secret? Yes; to let it die with me would be inhuman. If I have never heard Ill of some Person, I always impute it to defective Intelligence; *for there are none without their Faults, no, not one.* If she is a Woman, I take the first Opportunity to let all her Acquaintance know I have heard that one of the handsomest or best Men in Town has said something in Praise either of her Beauty, her Wit, her Virtue, or her good Management. If you know any thing of Humane Nature, you perceive that this naturally introduces a Conversation turning upon all her Failings, past, present, and to come. To the same purpose, and with the same Success, I cause every Man of Reputation to be praised before his Competitors in Love, Business, or Esteem, on Account of any particular Qualification. Near the Times of *Election*, if I find it necessary, I commend every Candidate before some of the opposite Party, listening attentively to what is said of him in answer: (But Commendations in this latter Case are not always necessary, and should be used judiciously;) of late Years, I needed only observe what they said of one another freely; and having for the Help of Memory, taken Account of all Informations and Accusations received, whoever peruses my Writings after my Death, may happen to think, that during a certain Term the People of *Pennsyl-*

vania chose into all their Offices of Honour and Trust, the veriest Knaves, Fools and Rascals in the whole Province. The Time of Election used to be a busy Time with me, but this Year, with Concern I speak it, People are grown so good-natur'd, so intent upon mutual Feasting and friendly Entertainment, that I see no Prospect of much Employment from that Quarter.

I mention'd above, that without good Method I could not go thro' my Business. In my Father's Lifetime I had some Instruction in Accompts, which I now apply with Advantage to my own Affairs. I keep a regular Set of Books, and can tell, at an Hour's Warning, how it stands between me and the World. In my *Daybook* I enter every Article of Defamation as it is transacted; for Scandals *receiv'd in* I give Credit, and when I pay them out again I make the Persons to whom they respectively relate *Debtor*. In my *Journal*, I add to each Story, by way of Improvement, such probable Circumstances as I think it will bear; and in my *Ledger* the whole is regularly posted.

I suppose the Reader already condemns me in his Heart for this particular of *adding Circumstances;* but I justify that part of my Practice thus. 'Tis a Principle with me, that none ought to have a greater Share of Reputation, than they really deserve; if they have, 'tis an Imposition upon the Publick. I know it is every one's Interest, and therefore believe they endeavour to conceal *all* their Vices and Follies; and I hold that those People are *extraordinary* foolish or careless, who suffer a Fourth of their Failings to come to publick Knowledge. Taking then the common Prudence and Imprudence of Mankind in a Lump, I suppose none suffer above *one Fifth* to be discovered: Therefore, when

I hear of any person's Misdoing, I think I keep within Bounds if in relating it I only make it *three times* worse than it is; and I reserve to myself the Privilege of charging them with one Fault in four, which for aught I know, they may be entirely innocent of. You see there are but few so careful of doing Justice as myself. What Reason then have Mankind to complain of *Scandal?* In a general way the worst that is said of us is only half what *might* be said, if all our Faults were seen.

But, alas! two great Evils have lately befaln me at the same time; an extream Cold, that I can scarce speak, and a most terrible Tooth-ach, that I dare hardly open my Mouth: For some Days past, I have receiv'd ten Stories for one I have paid; and I am not able to ballance my Accounts without your Assistance. I have long thought, that if you would make your Paper a Vehicle of Scandal, you would double the Number of your Subscribers. I send you herewith Account of four Knavish Tricks, two * * *, 5 cu-ld-ms, 3 drub'd Wives, and 4 henpeck'd Husbands, all within this Fortnight; which you may, as Articles of News, deliver to the Publick; and, if my Tooth-ach continues, shall send you more, being in the mean time your constant Reader,

ALICE ADDERTONGUE.

I thank my Correspondent, Mrs. Addertongue, for her Good Will, but desire to be excus'd inserting the Articles of News she has sent me, such Things being in Reality no News at all.

20. PREFACE TO POOR RICHARD, 1733 (P. H. S.)

COURTEOUS READER,

I might in this place attempt to gain thy Favour, by declaring that I write Almanacks with no other View than that of the publick Good; but in this I should not be sincere; and Men are now adays too wise to be deceiv'd by Pretences how specious soever. The plain Truth of the Matter is, I am excessive poor, and my Wife, good Woman, is, I tell her, excessive proud; she cannot bear, she says, to sit spinning in her Shift of Tow, while I do nothing but gaze at the Stars; and has threatned more than once to burn all my Books and Rattling-Traps (as she calls my Instruments) if I do not make some profitable Use of them for the Good of my Family. The Printer has offer'd me some considerable share of the Profits, and I have thus begun to comply with my Dame's Desire.

Indeed this Motive would have had Force enough to have made me publish an Almanack many Years since, had it not been overpowered by my Regard for my good Friend and Fellow Student Mr. *Titan Leeds*, whose Interest I was extreamly unwilling to hurt: But this Obstacle (I am far from speaking it with Pleasure) is soon to be removed, since inexorable Death, who was never known to respect Merit, has already prepared the mortal Dart, the fatal Sister has already extended her destroying Shears, and that ingenious Man must soon be taken from us. He dies, by my Calculation made at his Request, on Oct. 17. 1733. 3 h. 29 m. P. M. at the very instant of the ☌ of ☉ and ☿: By his own Calculation he will survive till the 26th of the

Poor Richard, 1733.

AN

Almanack

For the Year of Chriſt

1733,

Being the Firſt after LEAP YEAR.

And makes ſince the Creation	Years
By the Account of the Eaſtern *Greeks*	7241
By the Latin Church, when ☉ ent. ♈	6932
By the Computation of *W. W.*	5742
By the *Roman* Chronology	5689
By the *Jewiſh* Rabbies.	5494

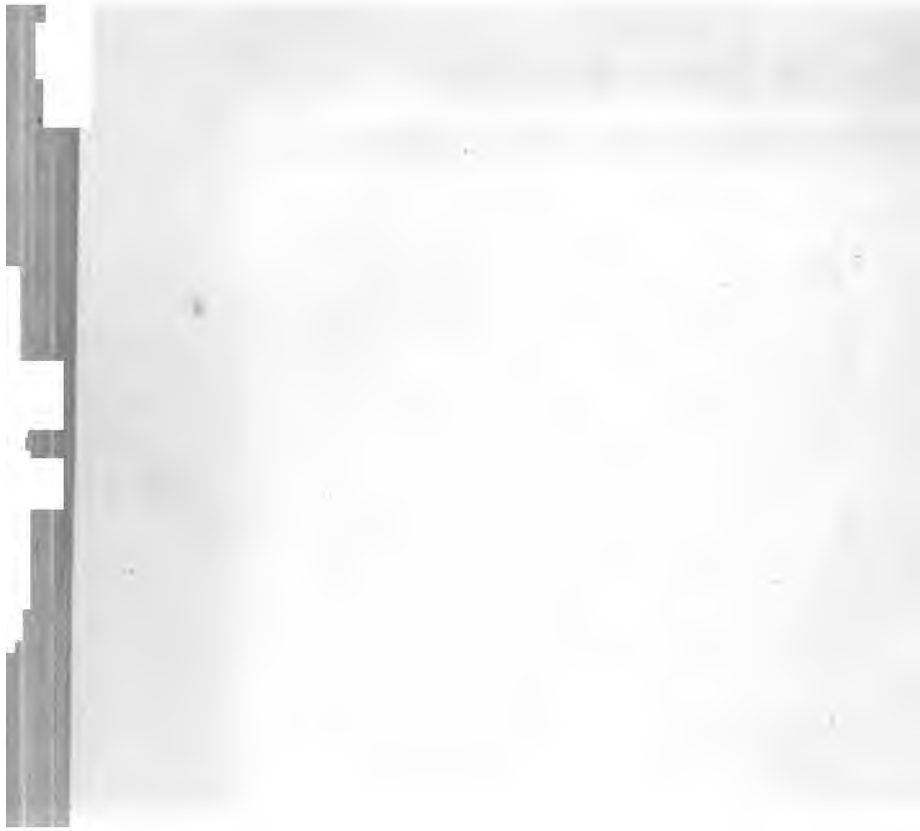
Wherein is contained

The Lunations, Eclipſes, Judgment of the Weather, Spring Tides, Planets Motions & mutual Aſpects, Sun and Moon's Riſing and Setting, Length of Days, Time of High Water, Fairs, Courts, and obſervable Days.

Fitted to the Latitude of Forty Degrees, and a Meridian of Five Hours Weſt from *London*, but may without ſenſible Error, ſerve all the adjacent Places, even from *Newfoundland* to *South-Carolina*.

By *RICHARD SAUNDERS*, Philom.

PHILADELPHIA:
Printed and ſold by *B. FRANKLIN*, at the New-Printing-Office near the Market



same Month. This small Difference between us we have disputed whenever we have met these 9 Years past; but at length he is inclinable to agree with my Judgment: Which of us is most exact, a little Time will now determine. As therefore these Provinces may not longer expect to see any of his Performances after this Year, I think my self free to take up the Task, and request a share of the publick Encouragement; which I am the more apt to hope for on this Account, that the Buyer of my Almanack may consider himself, not only as purchasing an useful Utensil, but as performing an Act of Charity, to his poor *Friend and Servant*

R. SAUNDERS.[1]

[1] Titan Leeds replied in his "American Almanack" for 1734: —

"Kind Reader, Perhaps it may be expected that I should say something concerning an Almanack printed for the Year 1733, Said to be writ by Poor Richard or Richard Saunders, who for want of other matter was pleased to tell his Readers, that he had calculated my Nativity, and from thence predicts my Death to be the 17th of October, 1733. At 22 min. past 3 a-Clock in the Afternoon, and that these Provinces may not expect to see any more of his (*Titan Leeds*) Performances, and this precise Predicter who predicts to a Minute, proposes to succeed me in Writing of Almanacks; but notwithstanding his false Prediction, I have by the Mercy of God lived to write a Diary for the Year 1734, and to publish the Folly and Ignorance of this presumptuous Author. Nay, he adds another gross Falsehood in his said Almanack, viz — *That by my own Calculation, I shall survive until the 26th of the said Month*, (October) which is as untrue as the former, for I do not pretend to that Knowledge, altho' he has usurpt the Knowledge of the Almighty herein, and manifested himself a Fool and a Lyar. And by the Mercy of God I have lived to survive this conceited Scriblers Day and Minute whereon he has predicted my Death; and as I have supplyed my Country with Almanacks for three seven Years by past, to general Satisfaction, so perhaps I may live to write when his Performances are Dead. *Thus much from your annual Friend, Titan Leeds.* October 18, 1733, 3 ho. 33 min. P. M.

21. A MEDITATION ON A QUART MUGG [1]

WRETCHED, miserable, and unhappy Mug! I pity thy luckless Lot, I commiserate thy Misfortunes, thy Griefs fill me with Compassion, and because of thee are Tears made frequently to burst from my Eyes.

How often have I seen him compell'd to hold up his Handle at the Bar, for no other Crime than that of being empty; then snatch'd away by a surly Officer, and plung'd suddenly into a Tub of cold Water: Sad Spectacle, and Emblem of human Penury, oppress'd by arbitrary Power! How often is he hurry'd down into a dismal Vault, sent up fully laden in a cold Sweat, and by a rude Hand thrust into the Fire! How often have I seen it obliged to undergo the Indignities of a dirty Wench; to have melting Candles dropt on its naked Sides, and sometimes in its Mouth, to risque being broken into a thousand Pieces, for Actions which itself was not guilty of! How often is he forced into the Company of boisterous Sots, who lay all their Nonsence, Noise, profane Swearing, Cursing, and Quarreling, on the harmless Mug, which speaks not a Word! They overset him, maim him, and sometimes turn him to Arms offensive or defensive, as they please; when of himself he would not be of either Party, but would as willingly stand still. Alas! what Power, or Place, is provided, where this poor Mug, this unpitied Slave, can have Redress of his Wrongs and Sufferings? Or where shall he have a Word of Praise bestow'd on him for his Well doings, and faithful Services? If he prove of a large size, his Owner curses him, and says he will devour more than he'll earn: If his Size be small,

[1] From *The Pennsylvania Gazette*, July 19, 1733.

those whom his Master appoints him to serve will curse him as much, and perhaps threaten him with the Inquisition of the Standard. Poor Mug, unfortunate is thy Condition! Of thy self thou wouldst do no Harm, but much Harm is done with thee! Thou art accused of many Mischiefs; thou art said to administer Drunkenness, Poison, and broken Heads: But none praise thee for the good Things thou yieldest! Shouldest thou produce double Beer, nappy Ale, stallcop Cyder, or Cyder mull'd, fine Punch, or cordial Tiff; yet for all these shouldst thou not be prais'd, but the rich Liquors themselves, which tho' within thee, will be said to be foreign to thee! And yet, so unhappy is thy Destiny, thou must bear all their Faults and Abominations! Hast thou been industriously serving thy Employers with Tiff or Punch, and instantly they dispatch thee for Cyder, then must thou be abused for smelling of Rum. Hast thou been steaming their Noses gratefully, with mull'd Cyder or butter'd Ale, and then offerest to refresh their Palates with the best of Beer, they will curse thee for thy Greasiness. And how, alas! can thy Service be rendered more tolerable to thee? If thou submittest thyself to a Scouring in the Kitchen, what must thou undergo from sharp Sand, hot Ashes, and a coarse Dishclout; besides the Danger of having thy Lips rudely torn, thy Countenance disfigured, thy Arms dismantled, and thy whole Frame shatter'd, with violent Concussions in an Iron Pot or Brass Kettle! And yet, O Mug! if these Dangers thou escapest, with little Injury, thou must at last untimely fall, be broken to Pieces, and cast away, never more to be recollected and form'd into a Quart Mug. Whether by the Fire, or in a Battle, or choak'd with a Dishclout, or by a Stroke against a Stone,

thy Dissolution happens; 'tis all alike to thy avaritious Owner; he grieves not for thee, but for the Shilling with which he purchased thee! If thy Bottom Part should chance to survive, it may be preserv'd to hold bits of Candles, or Blacking for Shoes, or Salve for kibed Heels; but all thy other Members will be for ever buried in some miry Hole; or less carefully disposed of, so that little Children, who have not yet arrived to Acts of Cruelty, may gather them up to furnish out their Baby Houses: Or, being cast upon the Dunghill, they will therewith be carted into Meadow Grounds; where, being spread abroad and discovered, they must be thrown to the Heap of Stones, Bones and Rubbish; or being left until the Mower finds them with his Scythe, they will with bitter Curses be tossed over the Hedge; and so serve for unlucky Boys to throw at Birds and Dogs; until by Length of Time and numerous Casualties, they shall be press'd into their Mother Earth, and be converted to their original Principles.

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22. PREFACE TO POOR RICHARD, 1734 (A. P. S.)

COURTEOUS READERS,

Your kind and charitable Assistance last Year, in purchasing so large an Impression of my Almanacks, has made my Circumstances much more easy in the World, and requires my grateful Acknowledgment. My Wife has been enabled to get a Pot of her own, and is no longer oblig'd to borrow one from a Neighbour; nor have we ever since been without something of our own to put in it. She has also got a pair of Shoes, two new Shifts, and a new warm Petticoat; and for my part, I have bought a second-hand Coat,

so good, that I am now not asham'd to go to Town or be seen there. These Things have render'd her Temper so much more pacifick than it us'd to be, that I may say, I have slept more, and more quietly within this last Year, than in the three foregoing Years put together. Accept my hearty Thanks therefor, and my sincere Wishes for your Health and Prosperity.

In the Preface to my last Almanack, I foretold the Death of my dear old Friend and Fellow-Student, the learned and ingenious Mr. *Titan Leeds*, which was to be on the 17th of *October*, 1733, 3 h. 29 m. P. M. at the very Instant of the ☌ of ☉ and ☿. By his own Calculation he was to survive till the 26th of the same Month, and expire in the Time of the Eclipse, near 11 o'clock A. M. At which of these Times he died, or whether he be really yet dead, I cannot at this present Writing positively assure my Readers; forasmuch as a Disorder in my own Family demanded my Presence, and would not permit me as I had intended, to be with him in his last Moments, to receive his last Embrace, to close his Eyes, and do the Duty of a Friend in performing the last Offices to the Departed. Therefore it is that I cannot positively affirm whether he be dead or not; for the Stars only show to the Skilful, what will happen in the natural and universal Chain of Causes and Effects; but 'tis well known, that the Events which would otherwise certainly happen at certain Times in the Course of Nature are sometimes set aside or postpon'd for wise and good Reasons by the immediate particular Dispositions of Providence; which particular Dispositions the Stars can by no Means discover or foreshow. There is however (and I cannot speak it without Sorrow) there is the strongest Probability that my

dear Friend is *no more;* for there appears in his Name, as I am assured, an Almanack for the Year 1734, in which I am treated in a very gross and unhandsome Manner; in which I am called *a false Predicter, an Ignorant, a conceited Scribler, a Fool, and a Lyar.* Mr. *Leeds* was too well bred to use any Man so indecently and so scurrilously, and moreover his Esteem and Affection for me was extraordinary: So that it is to be feared that Pamphlet may be only a Contrivance of somebody or other, who hopes perhaps to sell two or three Year's Almanacks still, by the sole Force and Virtue of Mr. *Leeds's* Name; but certainly, to put Words into the Mouth of a Gentleman and a Man of Letters, against his Friend, which the meanest and most scandalous of the People might be asham'd to utter even in a drunken Quarrel, is an unpardonable Injury to his Memory, and an Imposition upon the Publick.

Mr. *Leeds* was not only profoundly skilful in the useful Science he profess'd, but he was a Man of *exemplary Sobriety*, a most *sincere Friend*, and an *exact Performer of his Word.* These valuable Qualifications, with many others so much endear'd him to me, that although it should be so, that, contrary to all Probability, contrary to my Prediction and his own, he might possibly be yet alive, yet my Loss of Honour as a Prognosticator, cannot afford me so much Mortification, as his Life, Health and Safety would give me Joy and Satisfaction.

I am, *Courteous and Kind Reader*

Your poor Friend and Servant,

Octob. 30. 1733. R. SAUNDERS.[1]

[1] In the next issue of his "American Almanack" Titan Leeds, *Philomath*, replied thus: —

23. PREFACE TO POOR RICHARD, 1735 (A. P. S.)

COURTEOUS READER,

This is the third Time of my appearing in print, hitherto very much to my own Satisfaction, and, I have reason to hope, to the Satisfaction of the Publick also; for the Publick is generous, and has been very charitable and good to me. I should be ungrateful then, if I did not take every Opportunity of expressing my Gratitude; for *ingratum si dixeris, omnia dixeris:* I therefore return the Publick my most humble and hearty Thanks.

Whatever may be the Musick of the Spheres, how great soever the Harmony of the Stars, 'tis certain there is no Harmony among the Stargazers; but they are perpetually growling and snarling at one another like strange Curs, or like some Men at their Wives: I had resolved to keep the Peace on my own part, and affront none of them; and I

"Courteous and Kind Reader.

My Almanack being in its usual Method, needs no Explanation; but perhaps it may be expected by some that I shall say something concerning *Poor Richard*, or otherwise *Richard Saunders's* Almanack, which I suppose was printed in the Year 1733, for the ensuing Year 1734, wherein he useth me with such good Manners. I can hardly find what to say to him, without it is to advise him not to be too Proud because by his Prædicting my Death, and his writing an Almanack (I suppose at his Wife's Request) as he himself says, she has got a Pot of her own and not longer obliged to borrow one from a Neighbour, she has got also two new Shifts, a pair of new Shoes, and a new warm Petticoat; and for his own part he had bought a second-hand Coat so good that he is not ashamed to go to Town or to be seen there (Parturiant Montes !). But if Falshood and Inginuity be so rewarded, What may we expect if ever he be in a capacity to publish that that is either Just or according to Art ? Therefore I shall say little more about it than, as a Friend to advise he will never take upon him to prædict or ascribe any Persons Death, till he has learned to do it better than he did before."

shall persist in that Resolution: But having receiv'd much Abuse from *Titan Leeds* deceas'd (*Titan Leeds* when living would not have us'd me so!) I say, having receiv'd much Abuse from the Ghost of *Titan Leeds*, who pretends to be still living, and to write Almanacks in Spight of me and my Predictions, I cannot help saying, that tho' I take it patiently, I take it very unkindly. And whatever he may pretend, 'tis undoubtedly true that he is really defunct and dead. First because the Stars are seldom disappointed, never but in the Case of wise Men, *sapiens dominabitur astris*, and they foreshow'd his Death at the Time I predicted it. Secondly, 'Twas requisite and necessary he should die punctually at that Time, for the Honour of Astrology, the Art professed both by him and his Father before him. Thirdly, 'Tis plain to every one that reads his two last Almanacks (for 1734 and 35) that they are not written with that *Life* his Performances use to be written with; the Wit is low and flat, the little Hints dull and spiritless, nothing smart in them but *Hudibras's* Verses against Astrology at the Heads of the Months in the last, which no Astrologer but a *dead one* would have inserted, and no Man *living* would or could write such Stuff as the rest. But lastly I convince him in his own Words, that he is dead (*ex ore suo condemnatus est*) for in his Preface to his Almanack for 1734, he says "*Saunders adds another* GROSS FALSHOOD *in his Almanack, viz. that by my own Calculation I shall survive until the 26th of the said Month October* 1733, *which is as untrue as the former.*" Now if it be, as Leeds says, *untrue* and a *gross Falshood* that he surviv'd till the 26th of October 1733, then it is certainly *true* that he died *before* that Time: And if he died before that Time, he is dead

now, to all Intents and Purposes, any thing he may say to the contrary notwithstanding. And at what Time before the 26th is it so likely he should die, as at the Time by me predicted, *viz.* the 17th of October aforesaid? But if some People will walk and be troublesome after Death, it may perhaps be born with a little, because it cannot well be avoided unless one would be at the Pains and Expence of laying them in the *Red Sea;* however, they should not presume too much upon the Liberty allow'd them; I know Confinement must needs be mighty irksome to the free Spirit of an Astronomer, and I am too compassionate to proceed suddenly to Extremities with it; nevertheless, tho' I resolve with Reluctance, I shall not long defer, if it does not speedily learn to treat its living Friends with better Manners,

I am, *Courteous Reader, your obliged Friend and Servant*
Octob. 30. 1734. R. SAUNDERS.

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24. PROTECTION OF TOWNS FROM FIRE[1]

MR. FRANKLIN,

Being old and lame of my Hands, and thereby uncapable of assisting my Fellow Citizens, when their Houses are on Fire; I must beg them to take in good Part the following Hints on the Subject of Fires.

In the first Place, as *an Ounce of Prevention is worth a Pound of Cure,* I would advise 'em to take Care how they suffer living Brandsends, or Coals in a full Shovel, to be carried out of one Room into another, or up or down Stairs, unless in a Warmingpan shut; for Scraps of Fire may

[1] From *The Pennsylvania Gazette,* February 4, 1734–1735.

fall into Chinks, and make no Appearance till Midnight; when your Stairs being in Flames, you may be forced, (as I once was) to leap out of your Windows, and hazard your Necks to avoid being over-roasted.

And now we talk of Prevention, where would be the Damage, if, to the Act for preventing Fires, by regulating Bakehouses and Coopers Shops, a Clause were added to regulate all other Houses in the particulars of too shallow Hearths, and the destestable Practice of putting Wooden Mouldings on each side the Fire Place, which being commonly of Heart-of-Pine and full of Turpentine, stand ready to flame as soon as a Coal or a small Brande shall roul against them.

Once more; If Chimneys were more frequently and more carefully clean'd, some Fires might thereby be prevented. I have known foul Chimneys burn most furiously a few Days after they were swept: People in Confidence that they are clean, making large Fires. Every Body among us is allow'd to sweep Chimneys, that please to undertake that Business; and if a Chimney fires thro' fault of the Sweeper, the Owner pays the Fine, and the Sweeper goes free. This Thing is not right. Those who undertake sweeping of Chimneys, and employ Servants for that Purpose, ought to be licensed by the Mayor; and if any Chimney fires and flames out 15 Days after Sweeping, the Fine should be paid by the Sweeper; for it is his Fault.

We have at present got Engines enough in the Town, but I question, whether in many Parts of the Town, Water enough can be had to keep them going for half an Hour together. It seems to me some Publick Pumps are wanting; but that I submit to better Judgments.

As to our Conduct in the Affair of Extinguishing Fires, tho' we do not want Hands or Good-Will, yet we seem to want Order and Method, and therefore I believe I cannot do better than to offer for our Imitation, the Example of a City in a Neighbouring Province. There is, as I am well inform'd, a Club or Society of active Men belonging to each Fire Engine; whose Business is to attend all Fires with it whenever they happen; and to work it once a Quarter, and see it kept in order: Some of these are to handle the Fire-hooks, and others the Axes, which are always kept with the Engine; and for this Service they are consider'd in an Abatement or Exemption in the Taxes. In Time of Fire, they are commanded by Officers appointed by Law, called *Firewards*, who are distinguish'd by a Red Staff of five Feet long, headed with a Brass Flame of 6 Inches; And being Men of Prudence and Authority, they direct the opening and stripping of Roofs by the Ax-Men, the pulling down burning Timbers by the Hookmen, and the playing of the Engines, and command the making of Lanes, &c. and they are impowered to require Assistance for the Removing of Goods out of Houses on fire or in Danger of Fire, and to appoint Guards for securing such Goods; and Disobedience, to these Officers in any, at such Times, is punished by a Fine of 40s. or Ten Days Imprisonment. These Officers, with the Men belonging to the Engine, at their Quarterly Meetings, discourse of Fires, of the Faults committed at some, the good Management in some Cases at others, and thus communicating their Thoughts and Experience they grow wise in the Thing, and know how to command and to execute in the best manner upon every Emergency. Since the Establishment of this Regulation, it seems there has

been no extraordinary Fire in that Place; and I wish there never may be any here. But they suffer'd before they made such a Regulation, and so must we; for *Englishmen* feel but cannot see; as the *Italian* says of us. And it has pleased God, that in the Fires we have hitherto had, all the bad Circumstances have never happened together, such as dry Season, high Wind, narrow Street, and little or low Water: which perhaps tends to make us secure in our own Minds; but if a Fire with those Circumstances, which God forbid, should happen, we should afterwards be careful enough.

Let me say one thing more, and I will be silent. I could wish, that either Tiles would come in Use for a Covering to Buildings; or else that those who build, would make their Roofs more safe to walk upon, by carrying the Wall above the Eves, in the Manner of the new Buildings in *London*, and as Mr. *Turners* House in *Front Street*, or Mr. *Nichols's* in *Chestnut Street*, are built; which I conceive would tend considerably to their Preservation.

Let others communicate their Thoughts as freely as I have done mine, and perhaps something useful may be drawn from the Whole.

I am yours, &

A. A.

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25. PREFACE TO POOR RICHARD, 1736 (P. H. S.)

Loving Readers,

Your kind Acceptance of my former Labours, has encouraged me to continue writing, tho' the general Approbation you have been so good as to favour me with, has excited

the Envy of some, and drawn upon me the Malice of others. These Ill-willers of mine, despited at the great Reputation I gain'd by exactly predicting another Man's Death, have endeavour'd to deprive me of it all at once in the most effectual Manner, by reporting that I my self was never alive. They say in short, *That there is no such a Man as I am:* and have spread this Notion so thoroughly in the Country, that I have been frequently told it to my Face by those that don't know me. This is not civil Treatment, to endeavour to deprive me of my very Being, and reduce me to a Nonentity in the Opinion of the publick. But so long as I know my self to walk about, eat, drink and sleep, I am satisfied that *there is really such a Man as I am*, whatever they may say to the contrary: And the World may be satisfied likewise; for if there were no such Man as I am, how is it possible I should *appear publickly* to hundreds of People, as I have done for several Years past, *in print?* I need not, indeed, have taken any Notice of so idle a Report, if it had not been for the sake of my Printer, to whom my Enemies are pleased to ascribe my Productions; and who it seems is as unwilling to father my Offspring, as I am to lose the Credit of it: Therefore to clear him entirely, as well as to vindicate my own Honour, I make this publick and serious Declaration, which I desire may be believed, to wit, *That what I have written heretofore and do now write, neither was nor is written by any other Man or Men, Person or Persons whatsoever.* Those who are not satisfied with this, must needs be very unreasonable.

My Performance for this Year follows; it submits itself, kind Reader, to thy Censure, but hopes for thy Candor, to forgive its Faults. It devotes itself entirely to thy Service,

and will serve thee faithfully: And if it has the good Fortune to please its Master, 'tis Gratification enough for the Labour of *Poor*

R. SAUNDERS.

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26. PREFACE TO POOR RICHARD, 1737 (P. H. S.)

Courteous and kind Reader,

This is the fifth Time I have appear'd in Publick, chalking out the future Year for my honest Countrymen, and foretelling what shall, and what may, and what may not come to pass; in which I have the Pleasure to find that I have given general Satisfaction. Indeed, among the Multitude of our astrological Predictions, 'tis no wonder if some few fail; for, without any Defect in the Art itself, 'tis well known that a small Error, a single wrong Figure overseen in a Calculation, may occasion great Mistakes: But however we Almanack-makers may *miss it* in other Things, I believe it will be generally allow'd *That we always hit the Day of the Month*, and that I suppose is esteem'd one of the most useful Things in an Almanack.

As to the Weather, if I were to fall into the Method my Brother *J——n*[1] sometimes uses, and tell you, *Snow here or in New England, — Rain here or in South-Carolina, — Cold to the Northward, — Warm to the Southward*, and the like, whatever Errors I might commit, I should be something more secure of not being detected in them: But I consider, it will be of no Service to any body to know what Weather it is 1000 miles off, and therefore I always set down positively what Weather my Reader will have, be he where

[1] John Jerman.

he will at the time. We modestly desire only the favourable Allowance of *a day or two before* and *a day or two after* the precise Day against which the Weather is set; and if it does not come to pass accordingly, let the Fault be laid upon the Printer, who, 'tis very like, may have transpos'd or misplac'd it, perhaps for the Conveniency of putting in his Holidays: And since, in spight of all I can say, People will give him great part of the Credit of making my Almanacks, 'tis but reasonable he should take some share of the Blame.

I must not omit here to thank the Publick for the gracious and kind Encouragement they have hitherto given me: But if the generous Purchaser of my Labours could see how often his *Fi'—pence* helps to light up the comfortable Fire, line the Pot, fill the Cup and make glad the Heart of a poor Man and an honest good old Woman, he would not think his Money ill laid out, tho' the Almanack of his

Friend and Servant

R. SAUNDERS

were one half blank Paper.

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27. HINTS FOR THOSE THAT WOULD BE RICH[1]

[OCTOBER 1736]

THE Use of Money is all the Advantage there is in having Money.

For £6 a Year you may have the Use of £100 if you are a Man of known Prudence and Honesty.

[1] From "Poor Richard," 1737.

He that spends a Groat a day idly, spends idly above £6 a year, which is the Price of using £100.

He that wastes idly a Groat's worth of his Time per Day, one Day with another, wastes the Privilege of using £100 each Day.

He that idly loses 5s. worth of time, loses 5s. and might as prudently throw 5s. in the River.

He that loses 5s. not only loses that Sum, but all the Advantage that might be made by turning it in Dealing, which, by the time that a young Man becomes old, amounts to a comfortable Bag of Money.

Again, He that sells upon Credit, asks a Price for what he sells equivalent to the Principal and Interest of his Money for the Time he is like to be kept out of it: therefore He that buys upon Credit, pays Interest for what he buys. And he that pays ready Money, might let that Money out to Use; so that He that possesses any Thing he has bought, pays Interest for the Use of it.

Consider then when you are tempted to buy any unnecessary Householdstuff, or any superfluous thing, whether you will be willing to pay *Interest, and Interest upon Interest* for it as long as you live; and more if it grows worse by using.

Yet, in buying goods, 'tis best to pay Ready Money, because, He that sells upon Credit, expects to lose 5 *per Cent* by bad Debts; therefore he charges, on all he sells upon Credit, an Advance that shall make up that Deficiency.

Those who pay for what they buy upon Credit, pay their Share of this Advance.

He that pays ready Money, escapes or may escape that Charge.

A Penny sav'd is Twopence clear,
A Pin a Day is a Groat a Year.

28. PREFACE BY MISTRESS SAUNDERS TO POOR RICHARD, 1738 (P. H. S.)

DEAR READERS,

My good Man set out last week for *Potowmack*, to visit an old Stargazer of his Acquaintance, and see about a little Place for us to settle and end our Days on. He left the Copy of his Almanack seal'd up, and bid me send it to the Press. I suspected something, and therefore as soon as he was gone, I open'd it, to see if he had not been flinging some of his old Skitts at me. Just as I thought, so it was. And truly, (for want of somewhat else to say, I suppose) he had put into his Preface, that his Wife *Bridget* . . . was this, and that, and t' other. . . . What a-peasecods! cannot I have a little Fault or two, but all the Country must see it in print! They have already been told, at one time that I am proud, another that I am loud, and that I have got a new Petticoat, and abundance of such kind of stuff; and now, forsooth! all the World must know, that *Poor Dick's* Wife has lately taken a fancy to drink a little Tea now and then. A mighty matter, truly, to make a Song of! 'Tis true; I had a little Tea of a Present from the Printer last Year; and what, must a body throw it away? In short, I thought the Preface was not worth a printing, and so I fairly scratch'd it all out, and I believe you'll like our Almanack never the worse for it.

Upon looking over the Months, I see he has put in abundance of foul Weather this Year; and therefore I have scatter'd here and there, where I could find room, some *fair*, *pleasant*, *sunshiny*, &c. for the Good-Women to dry

their Clothes in. If it does not come to pass according to my Desire, I have shown my Good-will, however; and I hope they'll take it in good part.

I had a Design to make some other Corrections; and particularly to change some of the Verses that I don't very well like; but I have just now unluckily broke my Spectacles; which obliges me to give it you as it is, and conclude

Your loving Friend,

BRIDGET SAUNDERS.

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29. TO JOSIAH FRANKLIN[1]

Philadelphia, April 13, 1738.

HONOURED FATHER,

I have your favours of the 21st of March, in which you both seem concerned lest I have imbibed some erroneous opinions. Doubtless I have my share; and when the natural weakness and imperfection of human understanding is considered, the unavoidable influence of education, custom, books, and company upon our ways of thinking, I imagine a man must have a good deal of vanity who believes, and a good deal of boldness who affirms, that all the doctrines he holds are true, and all he rejects are false. And perhaps the same may be justly said of every sect, church, and society of men, when they assume to themselves that infallibility, which they deny to the Pope and councils.

I think opinions should be judged of by their influences and effects; and, if a man holds none that tend to make him

[1] From "Memoirs of Benjamin Franklin." Philadelphia: McCarty Davis, 1834, p. 233.

less virtuous or more vicious, it may be concluded he holds none that are dangerous; which I hope is the case with me.

I am sorry you should have any uneasiness on my account; and if it were a thing possible for one to alter his opinions in order to please another, I know none whom I ought more willingly to oblige in that respect than yourselves. But, since it is no more in a man's power to *think* than to *look* like another, methinks all that should be expected from me is to keep my mind open to conviction, to hear patiently and examine attentively, whatever is offered me for that end; and, if after all I continue in the same errors, I believe your usual charity will induce you to rather pity and excuse, than blame me. In the mean time your care and concern for me is what I am very thankful for.

My mother grieves, that one of her sons is an Arian, another an Arminian. What an Arminian or an Arian is, I cannot say that I very well know. The truth is, I make such distinctions very little my study. I think vital religion has always suffered, when orthodoxy is more regarded than virtue; and the Scriptures assure me, that at the last day we shall not be examined what we *thought*, but what we *did;* and our recommendation will not be, that we said, *Lord! Lord!* but that we did good to our fellow creatures. See Matt. xxv.

As to the freemasons, I know no way of giving my mother a better account of them than she seems to have at present, since it is not allowed that women should be admitted into that secret society. She has, I must confess, on that account some reason to be displeased with it; but for any thing else, I must entreat her to suspend her judgment till she is better informed, unless she will believe me, when I

assure her that they are in general a very harmless sort of people, and have no principles or practices that are inconsistent with religion and good manners.

We have had great rains here lately, which, with the thawing of snow on the mountains back of our country, have made vast floods in our rivers, and, by carrying away bridges, boats, &c., made travelling almost impracticable for a week past; so that our post has entirely missed making one trip.

I hear nothing of Dr. Crook, nor can I learn any such person has ever been here.

I hope my sister Jenny's child is by this time recovered. I am your dutiful son.

B. FRANKLIN.

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30. PREFACE TO POOR RICHARD, 1739 (A. P. S.)

Kind Reader,

Encouraged by thy former Generosity, I once more present thee with an Almanack, which is the 7th of my Publication. While thou art putting Pence in my Pocket, and furnishing my Cottage with necessaries, *Poor Dick* is not unmindful to do something for thy Benefit. The Stars are watch'd as narrowly as old *Bess* watch'd her Daughter, that thou mayst be acquainted with their Motions, and told a Tale of their Influences and Effects, which may do thee more good than a Dream of last Year's Snow.

Ignorant Men wonder how we Astrologers foretell the Weather so exactly, unless we deal with the old black Devil. Alas! 'tis as easy as ****** For Instance; The Stargazer peeps at the Heavens thro' a long Glass: He sees

perhaps TAURUS, or the great Bull, in a mighty Chafe, stamping on the Floor of his House, swinging his Tail about, stretching out his Neck, and opening wide his Mouth. 'Tis natural from these Appearances to judge that this furious Bull is puffing, blowing and roaring. Distance being consider'd and Time allow'd for all this to come down, there you have Wind and Thunder. He spies perhaps VIRGO (or the Virgin;) she turns her Head round as it were to see if any body observ'd her; then crouching down gently, with her Hands on her Knees, she looks wistfully for a while right forward. He judges rightly what she's about: And having calculated the Distance and allow'd Time for its Falling, finds that next Spring we shall have a fine *April* shower. What can be more natural and easy than this? I might instance the like in many other particulars; but this may be sufficient to prevent our being taken for Conjurors. O the wonderful Knowledge to be found in the Stars! Even the smallest Things are written there, if you had but Skill to read: When my Brother J—m—n erected a Scheme to know which was best for his sick Horse, to sup a new-laid Egg, or a little Broth, he found that the Stars plainly gave their Verdict for Broth, and the Horse having sup'd his Broth;—Now, what do you think became of that Horse? You shall know in my next.

Besides the usual Things expected in an Almanack, I hope the profess'd Teachers of Mankind will excuse my scattering here and there some instructive Hints in Matters of Morality and Religion. And be not thou disturbed, O grave and sober Reader, if among the many serious Sentences in my Book, thou findest me trifling now and then, and talking idly. In all the Dishes I have hitherto cook'd

for thee, there is solid Meat enough for thy Money. There are Scraps from the Table of Wisdom, that will if well digested, yield strong Nourishment to thy Mind. But squeamish Stomachs cannot eat without Pickles; which, 'tis true are good for nothing else, but they provoke an Appetite. The Vain Youth that reads my Almanack for the sake of an idle Joke, will perhaps meet with a serious Reflection, that he may ever after be the better for.

Some People observing the great Yearly Demand for my Almanack, imagine I must by this Time have become rich, and consequently ought to call myself *Poor Dick* no longer. But, the Case is this,

When I first begun to publish, the Printer made a fair Agreement with me for my Copies, by Virtue of which he runs away with the greatest Part of the Profit. — However, much good may 't do him; I do not grudge it him; he is a Man I have a great Regard for, and I wish his Profit ten times greater than it is. For I am, dear Reader, his, as well as thy

Affectionate Friend

R. SAUNDERS.

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31. A TRUE PROGNOSTICATION, FOR 1739[1]

COURTEOUS READERS,

Having consider'd the infinite Abuses arising from the false Prognostications published among you, made under the shadow of a Pot of Drink, or so, I have here calculated one of the most sure and unerring that ever was seen in

[1] From "Poor Richard," 1739.

black and white, as hereafter you'll find. For doubtless it is a heinous, foul and crying Sin, to deceive the poor gaping World, greedy of the Knowledge of Futurity, as we Americans all are. Take Notice by the by, that having been at a great deal of pains in the Calculation, if you don't believe every Syllable, Jot and Tittle of it, you do me a great deal of wrong; for which either here or elsewhere, you may chance to be claw'd off with a Vengeance. A good Cowskin, Crabtree or Bull's pizzle may be plentifully bestow'd on your outward Man. You may snuff up your Noses as much as you please, 'tis all one for that.

Well however, come, suite your Noses my little Children; and you old doating Father Grey-Beards, pull out your best Eyes, on wi' your Barnacles, and carefully observe every Scruple of what I'm going to tell you.

OF THE GOLDEN NUMBER

The Golden Number, *non est inventus.* I cannot find it this Year by any Calculation I have made. I must content myself with a Number of Copper. No matter, go on.

Of the ECLIPSES *this Year*

There are so many invisible Eclipses this Year, that I fear, not unjustly, our Pockets will suffer Inanition, be full empty, and our Feeling at a Loss. During the first visible Eclipse *Saturn* is retrograde: For which Reason the Crabs will go sidelong, and the Ropemakers backward. The Belly will wag before, and the A— shall sit down first. *Mercury* will have his share in these Affairs, and so confound the Speech of People, that when a *Pensilvanian* would say

PANTHER he shall say PAINTER. When a *New Yorker* thinks to say (This) he shall say (Diss) and the people in *New England* and *Cape May* will not be able to say (Cow) for their Lives, but will be forc'd to say (Keow) by a certain involuntary Twist in the Root of their Tongues. No *Connecticut man* nor *Marylander* will be able to open his Mouth this Year but (Sir) shall be the first or last Syllable he pronounces, and sometimes both. Brutes shall speak in many Places, and there will be above seven and twenty irregular Verbs made this Year, if Grammar don't interpose. — Who can help these Misfortunes!

Of the DISEASES *This Year*

This Year the Stone-blind shall see but very little; the Deaf shall hear but poorly; and the Dumb sha'nt speak very plain. And it's much, if my Dame *Bridget* talks at all this Year.

Whole Flocks, Herds, and Droves of Sheep, Swine and Oxen, Cocks and Hens, Ducks and Drakes, Geese and Ganders shall go to Pot; but the Mortality will not be altogether so great among Cats, Dogs, and Horses. As for old Age, 'twill be incurable this Year, because of the Years past. And towards the Fall some People will be seiz'd with an unaccountable Inclination to roast and eat their own Ears: Should this be call'd Madness, Doctors? I think not. But the worst Disease of all will be a certain most horrid, dreadful, malignant, catching, perverse and odious Malady, almost epidemical, insomuch that many shall run mad upon it; I quake for very Fear when I think on't: for I assure you very few will escape this Disease, which is called by the learned Albumazar *Lacko'mony*.

Of the FRUITS *of the* EARTH

I find that this will be a plentiful Year of all manner of good Things, to those who have enough; but the Orange Trees in *Greenland*, will go near to fare the worse for the Cold. As for Oats, they'll be a great Help to Horses. I dare say there won't be much more Bacon than Swine. *Mercury* somewhat threatens our Parsley-beds, yet Parsly will be to be had for Money. Hemp will grow faster than the Children of this Age, and some will find there's but too much on't. As for Corn, Fruit, Cyder and Turnips, there never was such Plenty as will be now; if poor Folks may have their Wish.

Of the CONDITION *of some* COUNTRIES

I foresee an universal *Droughth* this Year thro' all the Northern Colonies. Hence there will be *dry* Rice in *Carolina*, *dry* Tobacco in *Virginia* and *Maryland*, *dry* Bread in *Pennsylvania* and *New York;* and in *New England dry* Fish and *dry* Doctrine. *Dry* Throats there will be everywhere; but then how pleasant it will be to drink cool Cyder! tho' some will tell you nothing is more contrary to Thirst. I believe it; and indeed, *Contraria contrariis curantur.*

R. SAUNDERS.

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32. PREFACE TO POOR RICHARD, 1740 (A. P. S.)

October 7. 1739.

Courteous Reader,

You may remember that in my first Almanack, published for the Year 1733, I predicted the Death of my dear Friend *Titan Leeds*, Philomat. to happen that Year on the

17th Day of *October*, 3 h. 29 m. P. M. The good Man, it seems, died accordingly: But W. B. and A. B have continued to publish Almanacks in his Name ever since; asserting for some Years that he was still living; At length when the Truth could no longer be conceal'd from the World, they confess his Death in their Almanack for 1739, but pretend that he died not till last Year, and that before his Departure he had furnished them with Calculations for 7 Years to come. Ah, *My Friends*, these are poor Shifts and thin Disguises; of which indeed I should have taken little or no Notice, if you had not at the same time accus'd me as a false Predictor; an Aspersion that the more affects me, as my whole Livelyhood depends on a contrary Character.

But to put this Matter beyond Dispute, I shall acquaint the World with a Fact, as strange and surprizing as it is true; being as follows, *viz.*

On the 4th Instant, towards midnight, as I sat in my little Study writing this Preface, I fell fast asleep; and continued in that Condition for some time, without dreaming any thing, to my Knowledge. On awaking I found lying before me the following Letter, *viz.*

'*Dear Friend* SAUNDERS,

My Respect for you continues even in this separate State, and I am griev'd to see the Aspersions thrown on you by the Malevolence of avaricious Publishers of Almanacks who envy your Success. They say Your Prediction of my Death in 1733 was false, and they pretend that I remained alive many Years after. But I do hereby certify, that I did actually die at that time; precisely at the Hour you

mention'd, with a Variation only of 5 m. 53 sec. which must be allow'd to be no great matter in such Cases. And I do farther declare that I furnish'd them with no Calculations of the Planets Motions, etc, seven Years after my Death, as they are pleased to give out: so that the Stuff they publish as an Almanack in my Name is no more mine than 'tis yours.

You will wonder perhaps, how this Paper comes written on your Table. You must know that no separate Spirits are under any Confinement till after the final Settlement of all Accounts. In the mean time we wander where we please, visit our old Friends, observe their Actions, enter sometimes into their Imaginations, and give them Hints, waking or sleeping that may be of Advantage to them. Finding you asleep, I entred your left Nostril, ascended into your Brain, found out where the Ends of those Nerves were fastned that move your right Hand and Fingers, by the Help of which I am now writing unknown to you; but when you open your Eyes, you will see that the Hand written is mine, tho' wrote with yours.

The People of this Infidel Age, perhaps, will hardly believe this Story. But you may give them these three Signs by which they shall be convinc'd of the Truth of it. About the middle of June next, J. J—n, *Philomat*, shall be openly reconciled to the Church of Rome, and give all his Goods and Chattles to the Chappel, being perverted by a certain Country Schoolmaster. On the 7th of September following my old Friend W. B—t shall be sober 9 Hours, to the Astonishment of all his Neighbours: And about the same time W. B. and A. B. will publish another Almanack in my Name, in Spight of Truth and Common-Sense.

As I can see much clearer into Futurity, since I got free from the dark Prison of Flesh, in which I was continually molested and almost blinded with Fogs arising from Tiff, and the Smoke of burnt Drams; I shall in kindness to you, frequently give you Informations of things to come for the Improvement of your Almanack: Being Dear Dick

Your affectionate Friend

T. LEEDS.'

For my own part I am convinc'd that the above Letter is genuine. If the Reader doubts of it, let him carefully observe the three Signs; and if they do not actually come to pass, believe as he pleases.

I am his humble Friend

R. SAUNDERS.

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33. PREFACE TO POOR RICHARD, 1742 (L. C. P.)

Courteous READER,

THIS is the ninth Year of my Endeavours to serve thee in the Capacity of a Calendar-Writer. The Encouragement I have met with must be ascrib'd, in a great Measure, to your Charity, excited by the open honest Declaration I made of my Poverty at my first Appearance. This my Brother *Philomaths* could, without being Conjurers, discover; and *Poor Richard's* Success has produced ye a *Poor Will*, and a *Poor Robin;* and no doubt *Poor John*, &c. will follow, and we shall all be, *in Name*, what some Folks say we are already *in Fact*, a Parcel of *poor Almanack-Makers*. During the Course of these nine Years, what Buffetings have I not sustained! The Fraternity have been all in Arms. Honest *Titan*, deceas'd, was rais'd,

BENJAMIN FRANKLIN.

From an original portrait in pencil by Benjamin West, in the collection of The Hon. Samuel W. Pennypacker, LL.D.

and made to abuse his old Friend. Both Authors and Printers were angry. Hard Names, and many, were bestow'd on me. They deny'd me to be the Author of my own works; declar'd there never was any such Person; asserted that I was dead 60 Years ago; prognosticated my Death to happen within a Twelvemonth: with many other malicious Inconsistences, the Effects of blind Passion, Envy at my Success; and a vain Hope of depriving me, (dear Reader) of thy wonted Countenance and Favour. *Who knows him?* they cry: *Where does he live?* But what is that to them? If I delight in a private Life, have they any Right to drag me out of my Retirement? I have good Reasons for concealing the Place of my Abode. 'Tis time for an old Man, as I am, to think of preparing for his great Remove. The perpetual Teasing of both Neighbours and Strangers, to calculate Nativities, give Judgments on Schemes, erect Figures, discover Thieves, detect Horse-Stealers, describe the Route of Run-aways and stray'd Cattle; The Croud of Visitors with a 1000 trifling Questions; *Will my Ship return safe? Will my Mare win the Race? Will her next Colt be a Pacer? When will my Wife die? Who shall be my Husband, and HOW LONG first? When is the best time to cut Hair, trim Cocks, or sow Sallad?* These and the like Impertinences I have now neither Taste nor Leisure for. I have had enough of 'em. All that these angry Folks can say, will never provoke me to tell them where I live. I would eat my Nails first.

My last Adversary is *J. J——n*,[1] *Philomat.*, who *declares and protests* (in his preface, 1741) that the *false Prophecy put in my Almanack, concerning him, the Year before,*

[1] John Jerman.

is altogether false and untrue: *and that I am one of Baal's false Prophets.* This *false, false Prophecy* he speaks of, related to his Reconciliation with the Church of Rome; which, notwithstanding his Declaring and Protesting, is, I fear, too true. Two Things in his elegiac Verses confirm me in this Suspicion. He calls the first of *November* by the Name of *All Hallows Day.* Reader; does not this smell of Popery? Does it in the least savour of the pure Language of Friends? But the plainest Thing is; his Adoration of Saints, which he confesses to be his Practice, in these Words, page 4.

> "When any Trouble did me befal,
> To my dear *Mary* then I would call."

Did he think the whole World were so stupid as not to take Notice of this? So ignorant as not to know, that all Catholicks pay the highest Regard to the *Virgin Mary*? Ah! Friend *John*, we must allow you to be a Poet, but you are certainly no Protestant. I could heartily wish your Religion were as good as your Verses.

RICHARD SAUNDERS.[1]

[1] In the following Year John Jerman wrote in the Preface to his "American Almanack": —

"*To the* READERS, Here is presented to your View and Service, an *Almanack* for the Year 1743 according to my yearly Method, so I hope it needs no Explanation. I have put down the Judgment of the Weather as usual, and as I find the Aspects and Positions of the Planets to signifie; but no Man can be infallible therein, by reason of the many contrary Causes happening at or near the same Time, and the inconstancy of the Summer Showers and Gusts, being very often great Rain Hail and Thunder in one Place, and none at all in another Place within a few Miles distance. However I think mine comes as near the Matter as any other, if not nearer.

The Reader may expect a Reply from me to *R*—— *S*——*rs* alias *B*—— *F*——*ns* facetious Way of proving me *no Protestant.* I do hereby protest, that for *that* and such kind of Usage the *Printer* of that witty Performance

34. RULES OF HEALTH AND LONG LIFE[1]

EAT and drink such an exact Quantity as the Constitution of thy Body allows of, in reference to the Services of the Mind.

They that study much, ought not to eat so much as those that work hard, their Digestion being not so good.

The exact Quantity and Quality, being found out, is to be kept to constantly.

Excess in all other Things whatever, as well as in Meat and Drink, is also to be avoided.

Youth, Age, and Sick, require a different Quantity.

And so do those of contrary Complexions; for that which is too much for a phlegmatick Man, is not sufficient for a Cholerick.

The Measure of Food ought to be (as much as possibly may be) exactly proportionable to the Quality and Condition of the Stomach, because the Stomach digests it.

That Quantity that is sufficient, the Stomach can perfectly concoct and digest, and it sufficeth the due Nourishment of the Body.

A greater Quantity of some things may be eaten than of others, some being of lighter Digestion than others.

The Difficulty lies, in finding out an exact Measure; but eat for Necessity, not Pleasure, for Lust knows not where Necessity ends.

shall not have the Benefit of my Almanack for this Year. To avoid further Contention, and judging it unnecessary to offer any Proofs to those of my Acquaintance that I am not a Papist, I shall with these few Lines conclude and give place to what I think more agreeable to my Readers.

John Jerman."

[1] From Poor Richard, 1742.

Wouldst thou enjoy a long Life, a healthy Body, and a vigorous Mind, and be acquainted also with the wonderful Works of God, labour in the first place to bring thy Appetite into Subjection to Reason.

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35. A PROPOSAL

FOR PROMOTING USEFUL KNOWLEDGE AMONG THE BRITISH PLANTATIONS IN AMERICA[1]

Philadelphia, May 14, 1743.

THE English are possessed of a long tract of continent, from Nova Scotia to Georgia, extending north and south through different climates, having different soils, producing different plants, mines, and minerals, and capable of different improvements, manufactures, &c.

The first drudgery of settling new colonies, which confines the attention of people to mere necessaries, is now pretty well over; and there are many in every province in circumstances that set them at ease, and afford leisure to cultivate the finer arts and improve the common stock of knowledge. To such of these who are men of speculation, many hints must from time to time arise, many observations occur, which if well examined, pursued, and improved, might produce discoveries to the advantage of some or all of the British plantations, or to the benefit of mankind in general.

[1] This paper appears to contain the first suggestion, in any public form, for an *American Philosophical Society*. It was originally printed on a separate sheet, as a circular letter, and sent by the author to his different correspondents. — S.

But as from the extent of the country such persons are widely separated, and seldom can see and converse or be acquainted with each other, so that many useful particulars remain uncommunicated, die with the discoverers, and are lost to mankind; it is, to remedy this inconvenience for the future, proposed,

That one society be formed of *virtuosi* or ingenious men, residing in the several colonies, to be called *The American Philosophical Society*, who are to maintain a constant correspondence.

That Philadelphia, being the city nearest the centre of the continent colonies, communicating with all of them northward and southward by post, and with all the islands by sea, and having the advantage of a good growing library, be the centre of the Society.

That at Philadelphia there be always at least seven members, viz. a physician, a botanist, a mathematician, a chemist, a mechanician, a geographer, and a general natural philosopher, besides a president, treasurer, and secretary.

That these members meet once a month, or oftener, at their own expense, to communicate to each other their observations and experiments, to receive, read, and consider such letters, communications, or queries as shall be sent from distant members; to direct the dispersing of copies of such communications as are valuable, to other distant members, in order to procure their sentiments thereupon.

That the subjects of the correspondence be: all new-discovered plants, herbs, trees, roots, their virtues, uses, &c.; methods of propagating them, and making such as

are useful, but particular to some plantations, more general; improvements of vegetable juices, as ciders, wines, &c.; new methods of curing or preventing diseases; all new-discovered fossils in different countries, as mines, minerals, and quarries; new and useful improvements in any branch of mathematics; new discoveries in chemistry, such as improvements in distillation, brewing, and assaying of ores; new mechanical inventions for saving labour, as mills and carriages, and for raising and conveying of water, draining of meadows, &c.; all new arts, trades, and manufactures, that may be proposed or thought of; surveys, maps, and charts of particular parts of the sea-coasts or inland countries; course and junction of rivers and great roads, situation of lakes and mountains, nature of the soil and productions; new methods of improving the breed of useful animals; introducing other sorts from foreign countries; new improvements in planting, gardening, and clearing land; and all philosophical experiments that let light into the nature of things, tend to increase the power of man over matter, and multiply the conveniences or pleasures of life.

That a correspondence, already begun by some intended members, shall be kept up by this Society with the ROYAL SOCIETY of London, and with the DUBLIN SOCIETY.

That every member shall have abstracts sent him quarterly, of every thing valuable communicated to the Society's Secretary at Philadelphia; free of all charge except the yearly payment hereafter mentioned.

That, by permission of the postmaster-general, such communications pass between the Secretary of the Society and the members, postage-free.

That, for defraying the expense of such experiments as

the Society shall judge proper to cause to be made, and other contingent charges for the common good, every member send a piece of eight per annum to the treasurer, at Philadelphia, to form a common stock, to be disbursed by order of the President with the consent of the majority of the members that can conveniently be consulted thereupon, to such persons and places where and by whom the experiments are to be made, and otherwise as there shall be occasion; of which disbursements an exact account shall be kept, and communicated yearly to every member.

That, at the first meetings of the members at Philadelphia, such rules be formed for regulating their meetings and transactions for the general benefit, as shall be convenient and necessary; to be afterwards changed and improved as there shall be occasion, wherein due regard is to be had to the advice of distant members.

That, at the end of every year, collections be made and printed, of such experiments, discoveries, and improvements, as may be thought of public advantage; and that every member have a copy sent him.

That the business and duty of the Secretary be to receive all letters intended for the Society, and lay them before the President and members at their meetings; to abstract, correct, and methodize such papers as require it, and as he shall be directed to do by the President, after they have been considered, debated, and digested in the Society; to enter copies thereof in the Society's books, and make out copies for distant members; to answer their letters by direction of the President, and keep records of all material transactions of the Society.

Benjamin Franklin, the writer of this Proposal, offers him-

self to serve the Society as their secretary, till they shall be provided with one more capable.[1]

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36. SHAVERS AND TRIMMERS[2]

ALEXANDER MILLER, Peruke-maker, in *Second-street, Philadelphia*, takes Opportunity to acquaint his Customers, that he intends to leave off the Shaving Business after the 22d of *August* next.

To MR. FRANKLIN.

SIR,

It is a common Observation among the People of *Great Britain* and *Ireland*, that the Barbers are reverenced by the lower Classes of the Inhabitants of those Kingdoms, and in the more remote Parts of those Dominions, as the sole Oracles of Wisdom and Politicks. This at first View seems to be owing to the odd Bent of Mind and peculiar Humour of the People of those Nations: But if we carry this Observation into other Parts, we shall find the same Passion equally prevalent throughout the whole civilized World; and discover in every little Market-Town and Village the 'Squire, the Exciseman, and even the Parson himself, listening with as much Attention to a Barber's News, as they would to the profound Revelations of a Chancellor of the Exchequer, or principal Secretary of State.

[1] This is doubtless the paper alluded to by Dr. Franklin in his autobiography, where he says; "I succeeded, in the year 1744, in proposing and establishing a *Philosophical Society*. The paper I wrote for that purpose will be found among my writings; if not lost with many others." — S.

[2] From *The Pennsylvania Gazette*, June 23, 1743.

Antiquity likewise will furnish us with many Confirmations of the Truth of what I have here asserted. Among the old *Romans* the Barbers were understood to be exactly of the same Complection I have hear described. I shall not trouble your Readers with a Multitude of Examples taken from Antiquity. I shall only quote one Passage in *Horace*, which may serve to illustrate the Whole, and is as follows.

> Strenuus et fortis, causisq; Philippus agendis
> Clarus, ab officiis octavam circiter horam
> Dum redit: atq; foro nimium distare carinas
> Jam grandis natu queritur, conspexit, ut aiunt,
> Adrasum quendam vacuâ tonsoris in umbrâ.
> Cultello proprios purgantem leniter ungues.
>
> Hor. Epist. Lib. 1. 7.

By which we may understand, that the *Tonsoris Umbra*, *or* Barber's Shop, was the common Rendezvous of every idle Fellow, who had no more to do than to pair his Nails, talk Politicks, and see, and to be seen.

But to return to the Point in Question. If we would know why the Barbers are so eminent for their Skill in Politicks, it will be necessary to lay aside the Appellation of Barber, and confine ourselves to that of Shaver and Trimmer, which will naturally lead us to consider the near Relation which subsists between Shaving, Trimming and Politicks, from whence we shall discover that Shaving and Trimming is not the Province of the Mechanic alone, but that there are their several Shavers and Trimmers at Court, the Bar, in Church and State.

And first, Shaving or Trimming, in a strict mechanical Sense of the Word, signifies a cutting, sheering, lopping off, and fleecing us of those Excrescencies of Hair, Nails, Flesh,

&c., which burthen and disguise our natural Endowments. And is not the same practised over the whole World, by Men of every Rank and Station? Does not the corrupt Minister lop off our Privileges and fleece us of our Money? Do not the Gentlemen of the long Robe find means to cut off those Excrescencies of the Nation, Highwaymen, Thieves and Robbers? And to look into the Church, who has been more notorious for shaving and fleecing, than that Apostle of Apostles, that Preacher of Preachers, the Rev. Mr. G. W.? But I forbear making farther mention of this spiritual Shaver and Trimmer, lest I should affect the Minds of my Readers as deeply as his Preaching has affected their Pockets.

The second Species of Shavers and Trimmers are those who, according to the *English* Phrase, *make the best of a bad Market:* Such as cover (what is called by an eminent Preacher) *their poor Dust* in tinsel Cloaths and gaudy Plumes of Feathers. A Star, and Garter, for Instance, adds Grace, Dignity and Lustre to a gross corpulent Body; and a competent Share of religious Horror thrown into the Countenance, with proper Distortions of the Face, and the Addition of a lank Head of Hair, or a long Wig and Band, commands a most profound Respect to Insolence and Ignorance. The Pageantry of the Church of *Rome* is too well known for me to instance: It will not however be amiss to observe, that his Holiness the Pope, when he has a Mind to fleece his Flock of a good round Sum, sets off the Matter with Briefs, Pardons, Indulgencies, &c. &c. &c.

The Third and last Kind of Shavers and Trimmers are those who (in Scripture Language) are carried away with every Wind of Doctrine. The Vicars of Bray, and those who exchange their Principles with the Times, may justly

be referred to this Class. But the most odious Shavers and Trimmers of this Kind, are a certain set of Females, called (by the polite World) JILTS. I cannot give my Readers a more perfect Idea of these than by quoting the following Lines of the Poet:

> Fatally fair they are, and in their Smiles
> The Graces, little Loves, and young Desires inhabit:
> But they are false luxurious in their Appetites,
> And all the Heav'n they hope for, is Variety.
> One Lover to another still succeeds,
> Another and another after that,
> And the last Fool is welcome as the former;
> 'Till having lov'd his Hour out, he gives his Place,
> And mingles with the Herd that went before him.
>
> *Rowe's Fair Penitent.*

Lastly, I cannot but congratulate my Neighbours on the little Favour which is shown to Shavers and Trimmers by the People of this Province. The Business is at so low an Ebb, that the worthy Gentleman whose Advertisement I have chosen for the Motto of my Paper, acquaints us he will leave it off after the 22d of *August* next. I am of Opinion that all possible Encouragement ought to be given to Examples of this Kind, since it is owing to this that so perfect an Understanding is cultivated among ourselves, and the Chain of Friendship is brightened and perpetuated with our good Allies, the *Indians*. The Antipathy which these sage Naturalists bear to Shaving and Trimming, is well known.

I am, Yours, &c.

TO THE PUBLICK[1]

* * * Causis Philippus agendis
Clarus, * * *

S. P. D.

My Paper on Shavers and Trimmers, in the last *Gazette*, being generally condemn'd, I at first imputed it to the Want of Taste and Relish for Pieces of that Force and Beauty, which none but University-bred Gentlemen can *produce:* But upon Advice of Friends, whose Judgment I could depend on, I examined *myself* and to my Shame must confess, that I found myself to be an uncircumcised Jew, whose Excrescencies of Hair, Nails, Flesh, &c. did burthen and disguise my Natural Endowments; but having my Hair and Nails since lopp'd off and shorn, and my fleshly Excrescencies circumcised, I now appear in my wonted Lustre, and expect a speedy Admission among the *Levites*, which I have already the Honour of among the Poets and Natural Philosophers. I have one Thing more to add, which is, That I had no real Animosity against the Person whose Advertisement I made the Motto of my Paper; but (as may appear to all who have been Big with Pieces of this Kind) what I had long on my Mind, I at last unburden'd myself of. O! these JILTS still run in my Mind.

N.B. The Publick perhaps may suppose this Confession forced upon me; but if they *repair* to the P— Pe in Second-street, they may see Me, or the Original hereof under my own Hand, and be convinced that this is genuine.

[1] From *The Pennsylvania Gazette*, June 30, 1743.

37. TO WILLIAM STRAHAN[1] (P. C.)

PHILADELPHIA, July 10, 1743.

SIR: — Mr. Read has communicated to me part of a letter from you, recommending a young man[2] whom you would be glad to see in better business than that of a journeyman printer. I have already three printing-houses in different colonies, and purpose to set up a fourth if I can meet with a proper person to manage it, having all materials ready for that purpose. If the young man will venture over hither, that I may see and be acquainted with him, we can treat about the affair, and I make no doubt but he will think my proposals reasonable; if we should not agree, I promise him, however, a twelve-month's good work, and to defray his passage back if he inclines to return to England. I am, sir, your humble servant unknown,

B. FRANKLIN.

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38. TO MRS. JANE MECOM[3]

PHILADELPHIA, July 28, 1743.

DEAREST SISTER JENNY,

I took your admonition very kindly, and was far from being offended at you for it. If I say any thing about it to you, it

[1] Printed by Bigelow, Vol. X, p. 233. Strahan's papers are now widely dispersed in private collections. William Strahan (1715–1785), a printer and publisher, was a junior partner of Andrew Millar, and, after 1768, a partner of Thomas Cadell, the elder. He published Gibbon's "Decline and Fall," and the histories of Robertson and Hume. He was Hume's literary executor. He became King's Printer in 1769. — ED.

[2] David Hall.

[3] From "The Works of Dr. Benjamin Franklin," Philadelphia. Published by William Duane, 1817, Vol. VI, p. 5.

is only to rectify some wrong opinions you seem to have entertained of me; and this I do only because they give you some uneasiness, which I am unwilling to be the occasion of. You express yourself, as if you thought I was against the worshipping of God, and doubt that good works would merit heaven; which are both fancies of your own, I think, without foundation. I am so far from thinking that God is not to be worshipped, that I have composed and wrote a whole book of devotions for my own use; and I imagine there are few if any in the world so weak as to imagine that the little good we can do here can merit so vast a reward hereafter.

There are some things in your New England doctrine and worship, which I do not agree with; but I do not therefore condemn them, or desire to shake your belief or practice of them. We may dislike things that are nevertheless right in themselves. I would only have you make me the same allowance, and have a better opinion both of morality and your brother. Read the pages of Mr. Edwards's late book, entitled "Some Thoughts concerning the present Revival of Religion in New England," from 367 to 375, and when you judge of others, if you can perceive the fruit to be good, don't terrify yourself that the tree may be evil; but be assured it is not so, for you know who has said, "Men do not gather grapes of thorns and figs of thistles." I have no time to add, but that I shall always be your affectionate brother,

B. FRANKLIN.

P. S. It was not kind in you, when your sister commended good works, to suppose she intended it a reproach to you. It was very far from her thoughts.

39. PREFACE TO POOR RICHARD, 1744 (P. H. S.)

Courteous Reader,

This is the Twelfth Year that I have in this Way laboured for the Benefit——of Whom?——of the Publick, if you 'll be so good-natured as to believe it; if not, e'en take the naked Truth, 't was for the Benefit of my own dear self; not forgetting in the mean time, our gracious Consort and Dutchess the peaceful, quiet, silent Lady *Bridget*. But whether my Labours have been of any Service to the Publick or not, the Publick I must acknowledge has been of Service to me; I have lived Comfortably by its Benevolent Encouragement; and I hope I shall always bear a grateful Sense of its continued Favour.

My Adversary *J . . n J . . . . . n* has indeed made an Attempt to *out-shine* me by pretending to penetrate *a Year deeper* into Futurity; and giving his Readers *gratis* in his Almanack for 1743 an Eclipse of the Year 1744, to be beforehand with me: His Words are, "The first Day of *April* next "Year 1744, there will be a GREAT ECLIPSE of the Sun; "it begins about an Hour before Sunset. It being in the "Sign Aries, the House of Mars, and in the 7th, shows Heat, "Difference and Animosities between Persons of the highest "Rank and Quality," &c. I am very glad, for the Sake of * ** se Persons of Rank and Quality, that there is ** *manner of Truth* in this Prediction: They may, ***** please, ive in Love and Peace. And I ***** his Readers (they re but few, indeed, and so the Matter 's the less) not to give emselves any Trouble about observing this imaginary reat Eclipse; for they may stare till they 're blind without

seeing the least Sign of it. I might, on this Occasion, return Mr. *J - - - - - n* the Name of *Baal's false Prophet* he gave me some Years ago in his Wrath, on Account of my Predicting his Reconciliation with the *Church of Rome*, (tho' he seems now to have given up that Point) but I think such Language ******* old Men and Scholars unbecoming; and ********** the Affair with the Buyers of this Almanack as well as he can, who perhaps will not take it very kindly, that he has done what in him lay (by sending them out to gaze at an invisible Eclipse on the first of *April*) to make *April Fools* of them all. His old threadbare Excuse which he repeats Year after Year about the *Weather*, "That no man can be infallible therein, by Reason of the many contrary Causes happening at or near the same time, and the Unconstancy of the Summer Showers and Gusts," *etc.* will hardly serve him in the Affair of *Eclipses;* and I know not where he 'll get another.

I have made no Alteration in my usual Method, except adding the Rising and Setting of the Planets, and the Lunar Conjunctions. Those who are so disposed, may thereby very readily learn to know the Planets, and distinguish them from each other. *I am, dear Reader,*

Thy obliged Friend

R. SAUNDERS.

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40. TO CADWALLADER COLDEN[1] (L. C.)

SIR, PHILADELPHIA, November 4, 1743.

I received the favour of yours, with the proposal for a new method of printing, which I am much pleased with; and,

[1] Transcript in Library of Congress. Cadwallader Colden (1688–1776) published a "History of the Five Indian Nations" (New York, 1727; Lon-

since you express some confidence in my opinion, I shall consider it very attentively and particularly, and in a post or two send you some observations on every article.[1]

My long absence from home in the summer put my business so much behindhand, that I have been in a continual hurry ever since my return, and had no leisure to forward the scheme of the Society. But that hurry being now near over, I purpose to proceed in the affair very soon, your approbation being no small encouragement to me.

I cannot but be fond of engaging in a correspondence so advantageous to me as yours must be. I shall always receive your favours as such, and with great pleasure.

I wish I could by any means have made your son's longer stay here as agreeable to him, as it would have been to those who began to be acquainted with him.

I am, Sir, with much respect,

Your most humble servant,

B. FRANKLIN.

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41. TO WILLIAM STRAHAN[2] (P. C.)

PHILAD^A, Feb. 12, 1744.

SIR,

I received your Favour per Mr. Chew, dated Sept. 10. and a Copy *via* Boston. I received also Mr. Middleton's

don, 1745), and "Principles of Action in Matter," with a treatise on "Fluxions," London, 1752. — ED.

[1] The "proposal" here referred to, which was evidently an original invention of Mr. Colden, has some resemblance to the early attempts at stereotype printing. Franklin's "observations" have not been found. — ED.

[2] Printed by Bigelow, "Life of Benjamin Franklin," 5th edition, 1905, Vol. I, p. 375. Printed here from Puttick and Simpson's Catalogue, No. 374, July 16, 1888.

pieces.[1] I am pleased to hear that my old Acquaintance Mr. Wiggate, is promoted, and hope the Discovery will be compleated. I would not have you be too nice in the Choice of Pamphlets you send me. Let me have everything, good or bad, that makes a Noise and has a Run: For I have Friends here of different tastes to oblige with the sight of them.

"If Mr. Warburton publishes a New Edition of Pope's Works, please to send it me as soon as it is out, 6 setts. That Poet has many Admirers here, and the Reflection he somewhere casts on the Plantations as if they had a Relish for such Writers as Ward[2] only, is injurious. Your Authors know but little of the Fame they have on this side of the Ocean. We are a kind of Posterity in respect to them. We read their Works with perfect impartiality, being at too great a distance to be byassed by the Factions, Parties and Prejudices that prevail among you. We know nothing of their Personal Failings; the Blemishes in their Charactre never reaches [sic] us, and therefore the bright and amiable part strikes us with its full Force. They have never offended us or any of our Friends, and we have no competitions with them, therefore we praise and admire them without Restraint. Whatever Thomson writes send me a dozen copies of. I had read no poetry for several years, and almost lost the Relish of it, till I met with his Seasons. That charm-

[1] See Letter to Strahan, July 4, 1744.

[2] Edward Ward (1667–1731), "The London Spy," a writer of Hudibrastic verse. His works sold in great numbers in the Plantations. Hence Pope's reference to him in the Dunciad 1, 234: —

> "Nor sail with Ward to ape-and-monkey climes
> Where vile Mundungus trucks for viler rhymes."
>
> — Ed.

ing Poet has brought more Tears of Pleasure into my Eyes than all I ever read before. I wish it were in my Power to return him any Part of the joy he has given me."

I purpose to send you by a Ship that is to sail shortly from this port a bill and an invoice of Books that I shall want for Sale in my Shop, which I doubt not you will procure as cheap as possible, otherwise I shall not be able to sell them, as here is one who is furnish'd by Oswald that sells excessively low: I cannot conceive upon what Terms they deal. The Pamphlets and Newspapers I shall be glad to receive by way of N. York and Boston when there is no Ship directly hither. If you direct them for B. F., Postm. Philada., they will come readily to hand from those Places. Mr. Hall is perfectly well and gains Ground daily in the Esteem of all that know him. I hope Caslon [1] will not delay casting the English Fount I wrote to you for, so long as he has some that have been sent me. I have no doubt but Mr. Hall will succeed well in what he undertakes. He is obliging, discreet, industrious, and honest; and where those Qualities meet, Things seldom go amiss. Nothing in my Power shall be wanting to serve him. I cannot return your Compliments in Kind, this Quaker plain Country producing none. All *I* can do is to demonstrate, by a hearty Readiness in serving you when I have an Opportunity, or any Friend you recommend, that I do truly esteem and love you, being, Sir,

Your obliged humble Servant

B. FRANKLIN.

[1] William Caslon (1692–1766), the English Elzevir. At the time this letter was written his foundry was in Chiswell Street, and he had taken his son into partnership with him. — ED.

42. PREFACE TO LOGAN'S TRANSLATION OF "CATO MAJOR"[1]

THE PRINTER TO THE READER

This Version of Cicero's Tract *de Senectute*, was made Ten Years since, by the Honourable and Learned Mr. Logan, of this City; undertaken partly for his own Amusement, (being then in his 60th Year, which is said to be nearly the Age of the Author when he wrote it)[2] but principally for the Entertainment of a Neighbour then in his grand Climacteric; and the Notes were drawn up solely on that Neighbour's Account, who was not so well acquainted as himself with the Roman History and Language: Some other Friends, however, (among whom I had the Honour to be ranked) obtained Copies of it in MS. And, as I believed it to be in itself equal at least, if not far preferable to any other Translation of the same Piece extant in our Language, besides the Advantage it has of so many valuable Notes, which at the same time they clear up the Text, are highly instructive and entertaining; I resolved to give it an Impression, being confident that the Publick would not unfavourably receive it.

[1] M. T. Cicero's "Cato Major, or his Discourse of Old-Age: With Explanatory Notes. Philadelphia. Printed and sold by B. Franklin, 1744."

[2] Logan wrote to Franklin (February 26, 1744): "Pray do not forget to mention that it was done ten years since in the 60th year of my life nearly the same age that Cicero was when he wrote the original, tho' perhaps he was a year or two older: that it was wrote only for my own diversion and for the entertainment of a Friend less skill'd in the language or the history of Rome, and far from the thought of ever seeing it in print, for I well know there were other English versions of it, tho' I had never seen one of them." (Cicero was in his 63d year.) — ED.

A certain Freed-man of *Cicero's* is reported to have said of a medicinal Well, discovered in his Time, wonderful for the Virtue of its Waters in restoring Sight to the Aged, That it was a Gift of the bountiful Gods to Men, to the end that all might now have the Pleasure of reading his Master's Works. As that Well, if still in being, is at too great a Distance for our Use, I have, *Gentle Reader*, as thou seest, printed this Piece of *Cicero's* in a large and fair Character, that those who begin to think on the Subject of Old Age, (which seldom happens till their Sight is somewhat impair'd by its Approaches) may not, in Reading, by the *Pain* small Letters give the Eyes, feel the *Pleasure* of the Mind in the least allayed.

I shall add to these few Lines my hearty Wish, that this first Translation of a *Classic* in this *Western World*, may by followed with many others, performed with equal Judgment and Success; and be a happy Omen, that *Philadelphia* shall become the Seat of the *American* Muses.

PHILADELPHIA, Febr. 29. 1743-4.[1]

[1] James Logan (1674-1751) came to America as secretary to William Penn. He was a man of great learning and accumulated the most valuable library upon the Western Continent. He was the friend and correspondent of Fabricius, and through him secured books which "neither price nor prayers could buy." Franklin's literary education was derived from Logan's library at Stenton. The following letter gives a good notion of the relation existing between the great scholar and the eager pupil.

STENTON, May 6, 1741.

MY GOOD FRIEND B. FRANKLIN:

I return thee all thy Books with my hearty thanks for thy trouble in favouring me with a sight of them, and am highly pleased there are any in the Province who are so fond of such studies, and at the same time so well furnish'd with cash as to take them all together in their present condition at those Prices. But as I have some knowledge of the unhappy young man that most (not all) of them belonged to, I am sorry he should strain so far as to say the Homer cost him 4 Moydores. For one of the same, most exquisitely

43. AN

ACCOUNT

OF THE NEW-INVENTED

PENNSYLVANIAN FIRE-PLACES;

WHEREIN

THEIR CONSTRUCTION AND MANNER OF OPERATION IS PARTICULARLY EXPLAINED; THEIR ADVANTAGES ABOVE EVERY OTHER METHOD OF WARMING ROOMS DEMONSTRATED; AND ALL OBJECTIONS THAT HAVE BEEN RAISED AGAINST THE USE OF THEM ANSWERED AND OBVIATED. WITH DIRECTIONS FOR PUTTING THEM UP, AND FOR USING THEM TO THE BEST ADVANTAGE. AND A COPPER-PLATE IN WHICH THE SEVERAL PARTS OF THE MACHINE ARE EXACTLY LAID DOWN, FROM A SCALE OF EQUAL PARTS.

PHILADELPHIA:

PRINTED AND SOLD BY B. FRANKLIN. 1744.[1]

In these Northern Colonies the Inhabitants keep Fires to sit by, generally *Seven Months* in the Year; that is, from the Beginning of *October* to the End of *April;* and in some Winters near *Eight Months*, by taking in part of *September* and *May*.

bound, was offer'd to me the same year they were printed (1711) for less than one, and I never heard they were much started. I have one of the same edition of the Herodotus, perfect with all its maps of which this has not one that was bought of Ch. Bateman for 14 sh'gs for Wm. Masters, but this has been bound at least a second time, and only in sheepskin after it had been grossly abused, etc. I therefore advise thee by all means to accept the offer tho' with some considerable abatement, but I would willingly know who the Possessor is to be of the Ovid, for I want the use of the 3d vol. for about a week at most. I hope notwithstanding it suits us not to deal at present, Thou wilt still continue thy resolution to favour us with a visit.

Thy real friend,

JAMES LOGAN.

[1] Published in November, 1744.

Wood, our common Fewel, which within these 100 Years might be had at every Man's Door, must now be fetch'd near 100 Miles to some Towns, and makes a very considerable Article in the Expence of Families.

As therefore so much of the Comfort and Conveniency of our Lives, for so great a Part of the Year, depends on the Article of *Fire;* since Fuel is become so expensive, and (as the Country is more clear'd and settled) will of course grow scarcer and dearer; any new Proposal for Saving the Wood, and for lessening the Charge and augmenting the Benefit of Fire, by some particular Method of Making and Managing it, may at least be thought worth Consideration.

The New Fire-Places are a late Invention to that purpose, (experienced now three Winters by a great Number of Families in *Pennsylvania*) of which this Paper is intended to give a particular Account.

That the Reader may the better judge whether this Method of Managing Fire has any Advantage over those heretofore in Use, it may be proper to consider both the old and new Methods, separately and particularly, and afterwards make the Comparison.

In order to this 'tis necessary to understand well some few of the Properties of Air and Fire, *viz.*

1. Air is rarified by *Heat*, and condens'd by *Cold*, *i.e.* the same Quantity of Air takes up more Space when warm than when cold. This may be shown by several very easy Experiments. Take any clear Glass Bottle (a *Florence* Flask stript of the Straw is best), place it before the Fire, and, as the Air within is warm'd and rarified, part of it will be driven out of the Bottle; turn it up, place its Mouth in a Vessel of Water, and remove it from the Fire; then, as the Air within

cools and contracts, you will see the Water rise in the Neck of the Bottle, supplying the Place of just so much Air as was driven out. Hold a large hot Coal near the Side of the Bottle, and as the Air within feels the Heat, it will again distend and force out the Water. Or, Fill a Bladder half-full of Air, tie the Neck tight, and lay it before a Fire as near as may be without scorching the Bladder; as the Air within heats, you will perceive it to swell and fill the Bladder, till it becomes tight, as if full blown: Remove it to a cool Place, and you will see it fall gradually, till it becomes as lank as at first.

2. Air rarified and distended by Heat is specifically[1] lighter than it was before, and will rise in other Air of greater Density. As Wood, Oil, or any other Matter specifically lighter than Water, if plac'd at the Bottom of a Vessel of Water, will rise till it comes to the Top; so rarified Air will rise in common Air, till it either comes to Air of equal Weight, or is by Cold reduc'd to its former Density.

A Fire then being made in any Chimney, the Air over the Fire is rarified by the Heat, becomes lighter and therefore immediately rises in the Funnel, and goes out; the other Air in the Room (flowing towards the Chimney) supplies its Place, is rarified in its turn, and rises likewise; the Place of the Air thus carried out of the Room is supplied by fresh Air coming in thro' Doors and Windows, or, if they be shut, thro' every Crevice with Violence, as may be seen by holding a Candle to a Key-hole: If the Room be so tight as that all the Crevices together will not supply so much Air as is con-

[1] Body or Matter of any sort is said to be *specifically* heavier or lighter than other Matter, when it has more or less Substance or Weight in the same Dimensions. — F.

tinually carried off, then in a little time the Current up the Funnel must flag, and the Smoke, being no longer driven up must come into the Room.

1. Fire (*i.e.* Common Fire) throws out Light, Heat, and Smoke (or Fume) The two first move in right Lines, and with great Swiftness; the latter is but just separated from the Fuel, and then moves only as it is carried by the Stream of rarified Air. And without a continual Accession and Recession of Air, to carry off the smoaky Fumes, they would remain crouded about the Fire, and stifle it.

2. Heat may be separated from the Smoke as well as from the Light, by means of a Plate of Iron, which will suffer Heat to pass through it without the others.

3. Fire sends out its Rays of Heat, as well as Rays of Light, equally every way: But the greatest sensible Heat is over the Fire, where there is, besides the Rays of Heat shot upwards, a continual rising Stream of hot Air, heated by the Rays shot round on every Side.

These Things being understood, we proceed to consider the Fire-places heretofore in Use, *viz.*

1. The large open Fire-places used in the Days of our Fathers, and still generally in the Country, and in Kitchens.

2. The newer-fashion'd Fire-places, with low Breasts and narrow Hearths.

3. Fire-places with hollow Backs, Hearths and Jams of Iron, (described by Mons. *Gauger*) [1] for warming the Air as it comes into the Room.

4. The *Holland* Stoves, with Iron Doors opening into the Room.

5. The *German* Stoves, which have no Opening in the

[1] In his Tract entitled, *La Méchanique de Feu.* — F.

Room where they are us'd, but the Fire is put in from some other Room, or from without.

6. Iron Pots, with open Charcoal Fires, plac'd in the middle of a Room.

1. The first of these Methods has generally the Conveniency of two warm Seats, one in each Corner; but they are sometimes too hot to abide in, and, at other times incommoded with the Smoke; there is likewise good Room for the Cook to move, to hang on Pots, &c. Their Inconveniencies are, that they almost always smoke, if the Door be not left open; that they require a large Funnel, and a large Funnel carries off a great Quantity of Air, which occasions what is called a strong Draft to the Chimney, without which strong Draft the Smoke would come out of some Part or other of so large an Opening so that the Door can seldom be shut; and the cold Air so nips the Backs and Heels of those that sit before the Fire, that they have no Comfort 'till either Screens or Settles are provided (at a considerable Expence) to keep it off, which both cumber the Room and darken the Fire-side. A moderate Quantity of Wood on the Fire in so large a Hearth, seems but little; and, in so strong and cold a Draught, warms but little; so that People are continually laying on more. In short, 'tis next to impossible to warm a Room with such a Fire-place: And I suppose our Ancestors never thought of warming Rooms to sit in; all they purposed was to have a Place to make a Fire in, by which they might warm themselves when acold.

2. Most of these old-fashion'd Chimneys in Towns and Cities, have been, of late Years, reduc'd to the second Sort mention'd, by building Jambs within them, narrowing the Hearth, and making a low Arch or Breast. 'Tis strange,

methinks, that tho' Chimneys have been so long in Use, their Construction should be so little understood till lately, that no Workman pretended to make one which should always carry off all the Smoke, but a Chimney-cloth was look'd upon as essential to a Chimney: This Improvement, however, by small Openings and low Breasts, has been made in our Days; and Success in the first Experiments has brought it into general Use in Cities, so that almost all new Chimneys are now made of that sort, and much fewer Bricks will make a Stack of Chimneys now than formerly. An Improvement so lately made, may give us Room to believe, that still farther Improvements may be found, to remedy the Inconveniencies yet remaining. For these new Chimneys, tho' they keep Rooms generally free from Smoke, and, the Opening being contracted, will allow the Door to be shut, yet the Funnel still requiring a considerable Quantity of Air, it rushes in at every Crevice so strongly, as to make a continual Whistling or Howling; and 'tis very uncomfortable as well as dangerous to sit against any such Crevice. Many Colds are caught from this Cause only; it being safer to sit in the open Street; for then the Pores do all close together, and the Air does not strike so sharply against any particular Part.

The *Spaniards* have a Proverbial Saying,

> "If the Wind blows on you thro' a Hole,
> Make your Will, and take Care of your Soul."

Women, particularly, from this Cause, (as they sit much in the House) get Colds in the Head, Rheums, and Defluctions, which fall into their Jaws and Gums, and have destroy'd early many a fine set of Teeth in these Northern Colonies. Great and bright Fires do also very much contribute to dam-

age the Eyes, dry and shrivel the Skin, and bring on early the Appearances of Old-Age. In short, many of the Diseases proceeding from Colds, as Fevers, Pleurisies, &c., fatal to very great Numbers of People, may be ascrib'd to strong-drawing Chimneys, whereby, in severe Weather, a Man is scorch'd before, while he's froze behind.[1] In the mean

[1] As the Writer is neither Physician nor Philosopher, the Reader may expect he should justify these his Opinions by the Authority of some that are so. *M. Clare*, F. R. S., in his Treatise of *The Motion of Fluids*, says, (p. 246, &c.) "And here it may be remarked, that 'tis more prejudicial to Health to sit near a Window or Door, in a Room where there are many Candles and a Fire, than in a Room without: For the Consumption of Air thereby occasioned, will always be very considerable, and this must necessarily be replaced by cold Air from without. Down the Chimney can enter none, the Stream of warm Air always arising therein absolutely forbids it: The Supply must therefore come in wherever other Openings shall be found. If these happen to be small, *Let those who sit near them beware;* the smaller the Floodgate, the smarter will be the Stream. Was a Man, even in a Sweat, to leap into a cold Bath, or jump from his warm Bed, in the intensest cold, even in a Frost, provided he do not continue over-long therein, and be in Health when he does this, we see by experience, that he gets no Harm. If he sits a little while against a Window, into which a successive Current of cold Air comes, his Pores are closed, and he gets a Fever. In the first Case, the Shock the Body endures is general, uniform, and therefore less fierce; in the other, a single Part, a Neck, or Ear perchance, is attacked, and that with the greater Violence probably, as it is done by a successive Stream of cold Air. And the Cannon of a Battery, pointed against a single Part of a Bastion, will easier make a Breach than were they directed to play singly upon the whole Face, and will admit the Enemy much sooner into the Town."

That warm Rooms, and keeping the Body warm in Winter, are Means of preventing such Diseases, take the Opinion of that learned *Italian* Physician *Antonio Portio*, in the Preface to his Tract *De Militis Sanitate tuendâ*, where speaking of a particular wet and cold Winter, remarkable at *Venice* for its Sickliness, he says, "Popularis autem pleuritis, quæ Venetiis sæviit mensibus *Dec.*, *Jan.*, *Feb.*, ex cœli, aërisq; inclementiâ facta est, quod non habeant hypocausta [*Stove-Rooms*], et quod non soliciti sunt Itali omnes de auribus temporibus, collo, totoq; corpore defendendis ab injuriis aëris; et tegmina domorum Veneti disponant parum inclinata, ut nives diutius permanea super tegmina. E contra, Germani, qui experiuntur cœli inclementiam, p didicere sese defendere ab aëris injuriâ. Tecta construunt multum inclina

time, very little is done by these Chimneys towards warming the Room; for the Air round the Fire-place, which is warm'd by the direct Rays from the Fire, does not continue in the Room, but is continually crouded and gather'd into the Chimney by the Current of cold Air coming behind it, and so is presently carried off.

In both these Sorts of Fire-places, the greatest Part of the Heat from the Fire is lost: For as Fire naturally darts Heat every way, the Back, the two Jambs, and the Hearth drink up almost all that's given them, very little being reflected from Bodies so dark, porous, and unpolish'd; and the upright Heat, which is by far the greatest, flies directly up the Chimney. Thus Five Sixths at least of the Heat (and consequently of the Fewel) is wasted, and contributes nothing towards warming the Room.

3. To remedy this, the Sieur *Gauger* gives us, in his Book

ut decidant nives. Germani abundant lignis, domusque *hypocaustis*; foris autem incedunt pannis, pellibus, gossipio, bene mehercule loricati atq; muniti. In Bavariâ interrogabam (curiositate motus videndi Germaniam) quot nam elapsis mensibus pleuritide vel peripneumoniâ fuissent absumti; dicebant vix unus aut alter illis temporibus pleuritide fuit correptus."

The great Dr. *Boerhaave*, whose Authority alone might be sufficient, in his *Aphorisms* mentions, as one antecedent Cause of Pleurisies, "a cold Air driven violently through some narrow Passage upon the Body, overheated by Labour or Fire."

The *eastern* Physicians agree with the *Europeans* in this Point; witness the *Chinese* Treatise, entitled *Tchang Seng, i.e. The Art of procuring Health and long Life*, as translated in *Père Du Halde's* Account of *China*, which has this Passage. "As of all the Passions which ruffle us, Anger does the most mischief, so of all the malignant Affections of the Air, a Wind that comes thro' any narrow Passage, which is cold and piercing, is most dangerous; and, coming upon us unawares, insinuates itself into the Body, often causing grievous Diseases. It should therefore be avoided, according to the Advice of the ancient Proverb, as carefully as the Point of an Arrow." These Mischiefs are avoided by the Use of the new-invented Fire-places, as will be shewn hereafter. — F.

entitled *La Méchanique de Feu*, published 1709, seven different Constructions of the third sort of Chimneys mentioned above, in which there are hollow Cavities made by Iron Plates in the Back, Jambs, and Hearths, thro' which Plates the Heat passing warms the Air in those Cavities, which is continually coming into the Room fresh and warm. The Invention was very ingenious, and had many Conveniencies: The Room was warm'd in all Parts, by the Air flowing into it through the heated Cavities: Cold Air was prevented rushing thro' the Crevices, the Funnel being sufficiently supply'd by those Cavities: Much less Fuel would serve, &c. But the first Expence, which was very great; the Intricacy of the Design, and the Difficulty of the Execution, especially in old Chimneys, discouraged the Propagation of the Invention; so that there are, (I suppose,) very few such Chimneys now in Use. [The upright Heat, too, was almost all lost in these, as in the common Chimneys.]

4. The *Holland* Iron Stove, which has a Flue proceeding from the Top, and a small Iron Door opening into the Room, comes next to be considered. Its Conveniences are, that it makes a Room all over warm; for the Chimney being wholly closed, except the Flue of the Stove, very little Air is required to supply that, and therefore not much rushes in at Crevices, or at the Door when 'tis opened. Little Fewel serves, the Heat being almost all saved; for it rays out almost equally from the four Sides, the Bottom, and the Top, into the Room, and presently warms the Air around it, which, being rarified, rises to the Cieling, and its Place is supplied by the lower Air of the Room, which flows gradually towards the Stove, and is there warm'd and rises in its turn, so that there is a continual Circulation till all the

Air in the Room is warmed. The Air, too, is gradually changed by the Stove-Door's being in the Room, thro' which, part of it is continually passing, and that makes these Stoves wholesomer, or at least pleasanter, than the *German* Stoves next to be spoke of. But they have these Inconveniences. There is no Sight of the Fire, which is in itself a pleasant Thing. One cannot conveniently make any other Use of the Fire but that of warming the Room. When the Room is warm, People not seeing the Fire are apt to forget supplying it with Fuel 'til 'tis almost out, then, growing cold, a great deal of Wood is put in, which soon makes it too hot. The Change of Air is not carried on quite quick enough; so that, if any Smoke or ill Smell happens in the Room, 'tis a long time before 'tis discharged. For these Reasons the *Holland* Stove has not obtain'd much among the *English* (who love the Sight of the Fire) unless in some Workshops, where People are oblig'd to sit near Windows for the Light, and in such Places they have been found of good Use.

5. The *German* Stove is like a Box, one Side wanting. 'Tis composed of Five Iron Plates, scru'd together, and fix'd so as that you may put the Fuel into it from another Room, or from the Outside of the House. 'Tis a kind of Oven revers'd, its Mouth being without, and Body within the Room that is to be warm'd by it. This Invention certainly warms a Room very speedily and thoroughly with little Fuel: No Quantity of cold Air comes in at any Crevice, because there is no Discharge of Air which it might supply, there being no Passage into the Stove from the Room. These are its Conveniences. Its Inconveniences are, That People have not even so much Sight or Use of the Fire as in the

Holland Stoves, and are moreover oblig'd to breathe t
same unchang'd Air continually, mix'd with the Breath a
Perspiration from one another's Bodies, which is very di
agreeable to those who have not been accustomed to it.

6. Charcoal Fires, in Pots, are us'd chiefly in the Sho
of Handicraftsmen. They warm a Room (that is kept clo
and has no Chimney to carry off the warm'd Air,) ve
speedily and uniformly: But there being no Draught
change the Air, the sulphurous Fumes from the Coals (
they ever so well kindled before they are brought in, the
will be some) mix with it, render it disagreeable, hurtful
some Constitutions, and sometimes, when the Door is lor
kept shut, produce fatal consequences.

To avoid the several Inconveniences, and at the same tin
retain all the Advantages of other Fire-places, was contrive
the PENNSYLVANIA FIRE-PLACE, now to be described.

This Machine consists of

A Bottom Plate, (i) (See Plate V.) —

A Back Plate, (ii)

Two Side Plates, (iii, iii)

Two Middle Plates, (iv, iv) which, join'd together f
a tight Box with winding Passages in it for warming the

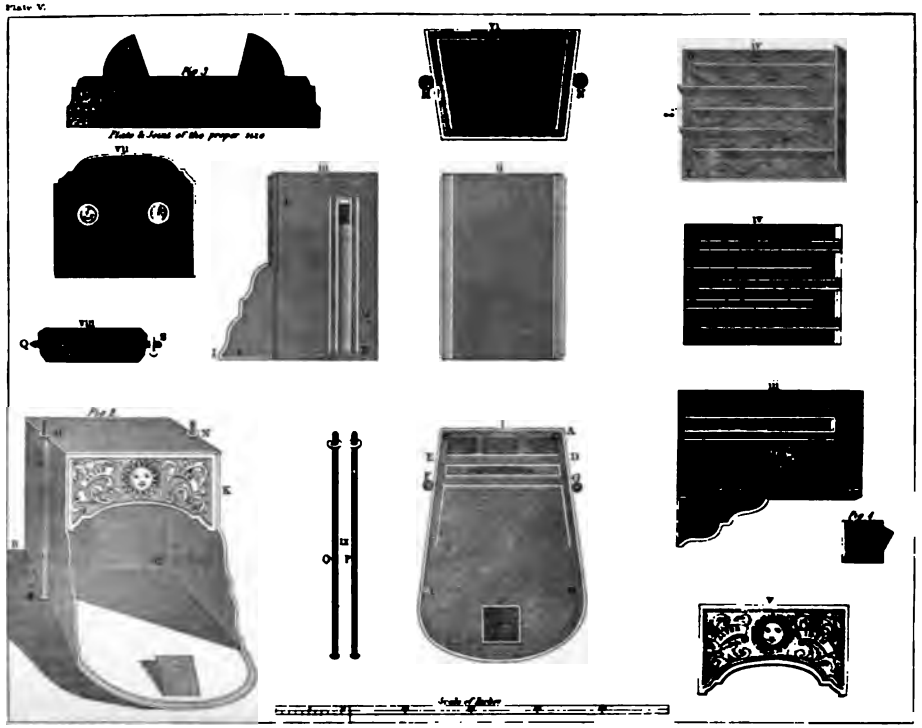
A Front Plate, (v)

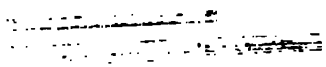
A Top Plate, (vi)

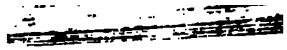
These are all of cast Iron, with Mouldings or L
where the Plates come together, to hold them fast, and
the Mortar us'd for Pointing to make tight Joints.
the Plates are all in their Places, a Pair of slender
with Screws, are sufficient to bind the Whole very
together, as it appears in Fig. 2.

There are, moreover, two thin Plates of wrought Ir

Plate V.







the Shutter (vii) and the Register (viii); besides the Screw-Rods, *O*, *P*, all which we shall explain in their Order.

(i) The Bottom Plate, or Hearth-Piece, is round before, with a rising Moulding, that serves as a Fender to keep Coals and Ashes from coming to the Floor, &c. It has two Ears, *F*, *G*, perforated to receive the Screw-Rods, *O P*; a long Air-Hole, *a a*, thro' which the fresh outward Air passes up into the Air-Box; and three Smoke-Holes, *B C* thro' which the Smoke descends and passes away; all represented by dark Squares. It has also double Ledges to receive between them the Bottom Edges of the Back Plate, the two Side Plates, and the two Middle Plates. These Ledges are about an Inch asunder, and about half an Inch high; a Profile of two of them, join'd to a Fragment of Plate, appears in Fig. 3.

(ii) The Back Plate is without Holes, having only a Pair of Ledges on each Side, to receive the Back Edges of the two.

(iii, iii) Side Plates: These have each a Pair of Ledges to receive the Side Edges of the Front Plate, and a little Shoulder for it to rest on; also two Pair of Ledges to receive the Side Edges of the two Middle Plates, which form the Air-Box; and an oblong Air-hole near the Top, thro' which is discharged into the Room the Air warm'd in the Air-Box. Each has also a Wing or Bracket, *H* and *I*, to keep in falling Brands, Coals, &c., and a small Hole, *Q* and *R*, for the Axis of the Register to turn in.

(iv, iv) The Air-Box is compos'd of the two Middle Plates, *D E* and *F G*. The first has five thin Ledges or Partitions, cast on it, two Inches deep, the Edges of which are receiv'd in so many Pair of Ledges cast in the other. The Tops of all the Cavities form'd by these thin deep Ledges are also covered by a Ledge of the same Form and

Depth, cast with them; so that when the Plates are put together, and the Joints luted, there is no Communication between the Air-Box and the Smoke. In the winding Passages of this Box, fresh Air is warm'd as it passes into the Room.

(v) The Front Plate is arch'd on the under Side, and ornamented with Foliages, &c.; it has no Ledges.

(vi) The Top Plate has a Pair of Ears, *M N*, answerable to those in the Bottom Plate, and perforated for the same Purpose: It has also a Pair of Ledges running round the under Side, to receive the Top Edges of the Front, Back, and Side Plates. The Air-Box does not reach up to the Top Plate by two Inches and half.

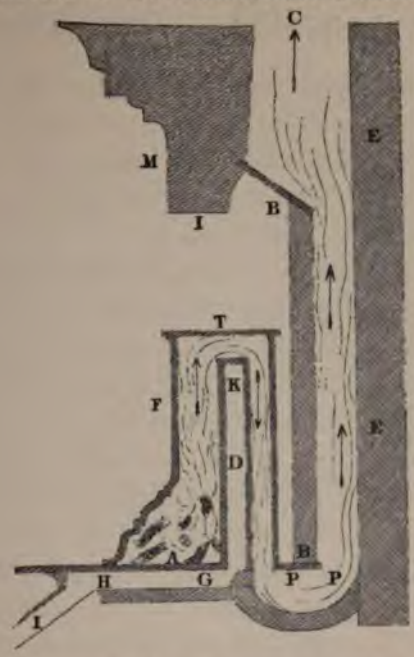
(vii) The Shutter is of thin wrought Iron and light, of such a Length and Breadth as to close well the Opening of the Fire-place. It is us'd to blow up the Fire, and to shut up and secure it a Nights. It has two brass Knobs for Handles, *d d*, and commonly slides up and down in a Groove, left, in putting up the Fire-place, between the foremost Ledge of the Side Plates, and the Face of the Front Plate; but some choose to set it aside when it is not in Use, and apply it on Occasion.

(viii) The Register, is also of thin wrought Iron. It is plac'd between the Back Plate and Air-Box, and can, by Means of the Key *S* be turn'd on its Axis so as to lie in any Position between level and upright.

The Screw-Rods, *O P* are of wrought Iron, about a third of an Inch thick, with a Button at Bottom, and a Screw and Nut at Top; and may be ornamented with two small Brasses screw'd on above the Nuts.

To put this Machine to work,

PROFILE OF THE PENNSYLVANIA CHIMNEY AND FIRE-PLACE

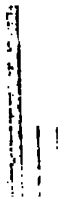


STAFFORDSHIRE FIRE-PLACE. *Page 531.*

Side View

Front View

PLATE VI



1. A false Back of four Inch—(or, in shallow small Chimneys, two-Inch—) Brick-Work is to be made in the Chimney, four Inches or more from the true Back: From the Top of this false Back, a Closing is to be made over to the Breast of the Chimney, that no Air may pass into the Chimney, but what goes under the false Back, and up behind it.

2. Some Bricks of the Hearth are to be taken up, to form a Hollow under the Bottom Plate; across which Hollow runs a thin tight Partition, to keep apart the Air entring the Hollow, and the Smoke; and is therefore plac'd between the Air-hole and Smoke-holes.

3. A Passage is made, communicating with the outward Air, to introduce that Air into the fore part of the Hollow under the Bottom Plate, whence it may rise thro' the Air-hole into the Air-box.

4. A Passage is made from the back Part of the Hollow, communicating with the Flue behind the false Back: Through this Passage the Smoke is to pass.

The Fire-place is to be erected upon these Hollows, by putting all the Plates in their Places, and screwing them together.

Its Operation may be conceiv'd by observing the Plate entitled, *Profile of the Chimney and Fire-place.* (See Plate VI.)

M The Mantel-piece, or Breast of the Chimney.

C The Funnel.

B The false Back and Closing.

E True Back of the Chimney.

T Top of the Fire-place.

F The Front of it.

A The Place where the Fire is made.

D The Air-Box.

K The Hole in the Side plate, thro' which the warm'd Air is discharg'd out of the Air-Box into the Room.

H The Hollow fill'd with fresh Air, entring at the Passage *I*, and ascending into the Air-Box thro' the Air-hole in the Bottom plate, near

G The Partition in the Hollow to keep the Air and Smoke apart.

P The Passage under the false Back and Part of the Hearth for the Smoke.

[The arrows show] the Course of the Smoke.

The Fire being made at *A*, the Flame and Smoke will ascend and strike the Top *T*, which will thereby receive a considerable Heat. The Smoke, finding no Passage upwards, turns over the Top of the Air-box, and descends between it and the Back Plate to the Holes in the Bottom Plate, heating, as it passes, both Plates of the Air-box, and the said Back Plate; the Front Plate, Bottom and Side Plates are also all heated at the same Time. The Smoke proceeds in the Passage that leads it under and behind the false Back, and so rises into the Chimney. The Air of the Room, warm'd behind the Back Plate, and by the Sides, Front, and Top Plates, becoming specifically lighter than the other Air in the Room, is oblig'd to rise; but the Closure over the Fire-place hindring it from going up the Chimney, it is forc'd out into the Room, rises by the Mantle-piece to the Cieling, and spreads all over the Top of the Room, whence being crouded down gradually by the Stream of newly-warm'd Air that follows and rises above it, the whole Room becomes in a short time equally warmed.

At the same Time the Air, warmed under the Bottom Plate and in the Air-Box, rises, and comes out of the Holes in

the Side Plates, very swiftly if the Door of the Room be shut, and joins its Current with the Stream before mentioned, rising from the Side, Back, and Top Plates.

The Air that enters the Room thro' the Air-box is fresh, tho' warm; and computing the Swiftness of its Motion with the Areas of the Holes, 'tis found that near 10 Barrels of fresh Air are hourly introduc'd by the Air-Box; and by this Means the Air in the Room is continually changed, and kept at the same Time sweet and warm.

'Tis to be observed, that the entring Air will not be warm at first Lighting the Fire, but heats gradually as the Fire encreases.

A square Opening for a Trap-Door should be left in the Closing of the Chimney, for the Sweeper to go up: The Door may be made of Slate or Tin, and commonly kept close shut, but so plac'd as that turning up against the Back of the Chimney when open, it closes the Vacancy behind the false Back, and shoots the Soot, that falls in Sweeping, out upon the Hearth. This Trap-Door is a very convenient Thing.

In Rooms where much Smoking of Tobacco is used, 'tis also convenient to have a small Hole, about five or six Inches square, cut near the Cieling through into the Funnel: This Hole must have a Shutter, by which it may be clos'd or open'd at Pleasure. When open, there will be a strong Draught of Air through it into the Chimney, which will presently carry off a Cloud of Smoke, and keep the Room clear: If the Room be too hot likewise, it will carry off as much of the warm Air as you please, and then you may stop it intirely, or in part, as you think fit. By this Means it is that the Tobacco Smoke does not descend among the Heads of the Company near the Fire, as it must do before it can get into common Chimneys.

The Manner of using this Fire-place

Your Cord-wood must be cut into three Lengths; or else a short Piece, fit for the Fire-place, cut off, and the longer left for the Kitchen or other Fires. Dry Hickery, or Ash, or any Woods that burn with a clear Flame, are rather to be chosen, because such are less apt to foul the Smoke Passages with Soot; and Flame communicates with its Light, as well as by Contact, greater Heat to the Plates and Room. But where more ordinary Wood is used, half a dry Faggot of Brushwood burnt at the first making of Fire in the Morning, is very advantageous; as it immediately by its sudden Blaze heats the Plates and warms the Room (which with bad Wood slowly kindling would not be done so soon) and at the same time, by the Length of its Flame turning in the Passages, consumes and cleanses away the Soot that such bad smoaky Wood had produc'd therein the preceding Day, and so keeps them always free and clean. When you have laid a little Back log, and plac'd your Billets on small Dogs, as in common Chimneys, and put some Fire to them, then slide down your Shutter as low as the Dogs, and the Opening being by that means contracted, the Air rushes in briskly and presently blows up the Flames. When the Fire is sufficiently kindled, slide it up again.[1] In some of these Fire-places there is a little six inch square Trap-door of thin wrought Iron or Brass,

[1] The Shutter is slid up and down in this Manner, only in those Fire-places which are so made, as that the Distance between the Top of the arch'd Opening and the Bottom Plate is the same as the Distance between it and the Top Plate. Where the Arch is higher, as it is in the Draught annex'd (which is agreeable to the last Improvements), the Shutter is set by, and apply'd occasionally: because, if it were made deep enough to close the whole Opening when slid down, it would hide Part of it when up. — F.

covering a Hole of like Dimensions near the Fore part of the Bottom Plate, which being by a Ring lifted up towards the Fire, about an Inch, where it will be retain'd by two springing Sides fix'd to it perpendicularly, (see Plate V., Fig. 4), the Air rushes in from the Hollow under the Bottom Plate, and blows the Fire. Where this is us'd, the Shutter serves only to close the Fire a Nights. The more forward you can make your Fire on the Hearth-Plate, not to be incommoded by the Smoke, the sooner and more will the Room be warmed. At Night, when you go to Bed, cover the Coals or Brands with Ashes as usual; then take away the Dogs, and slide down the Shutter close to the Bottom Plate, sweeping a little Ashes against it that no Air may pass under it; then turn the Register, so as very near to stop the Flue behind. If no Smoke then comes out at Crevices into the Room 'tis, right: If any Smoke is perceiv'd to come out, move the Register so as to give a little Draught, and 'twill go the right way. Thus the Room will be kept warm all Night; for the Chimney being almost entirely stopt, very little, if any, cold Air will enter the Room at any Crevice. When you come to re-kindle the Fire in the Morning, turn open the Register before you lift up the Slider, otherwise if there be any Smoke in the Fire-Place, it will come out into the Room. By the same Use of the Shutter and Register, a blazing Fire may be presently stifled, as well as secured, when you have Occasion to leave it for any Time; and at your Return you will find the Brands warm, and ready for a speedy Re-kindling. The Shutter alone will not stifle a Fire; for it cannot well be made to fit so exactly but that Air will enter, and that in a violent Stream, so as to blow up and keep alive the Flames, and consume the Wood, if the Draught be not check'd by turning the Register to shut

the Flue behind. The Register has also two other Uses. If you observe the Draught of Air into your Fire-place to be stronger than is necessary (as in extream cold Weather it often is) so that the Wood is consum'd faster than usual; in that Case, a quarter, half, or two-thirds Turn of the Register, will check the Violence of the Draught, and let your Fire burn with the Moderation you desire: And at the same Time both the Fire-Place and the Room will be the warmer, because less cold Air will enter and pass through them. And if the Chimney should happen to take Fire (which indeed there is very little Danger of, if the preceding Direction be observ'd in making Fires, and it be well swept once a Year; for, much less Wood being burnt, less Soot is proportionably made; and the Fuel being soon blown into Flame by the Shutter, (or the Trap-door Bellows) there is consequently less Smoke from the Fuel to make Soot; then, tho' the Funnel should be foul, yet the Sparks have such a crooked up and down roundabout Way to go, that they are out before they get at it) I say, if ever it should be on fire, a Turn of the Register shuts all close, and prevents any Air going into the Chimney, and so the Fire may easily be stifled and mastered.

The Advantages of this Fire-place

Its Advantages above the common Fire-places are,

1. That your whole Room is equally warmed; so that People need not croud so close round the Fire, but may sit near the Window, and have the Benefit of the Light for Reading, Writing, Needlework, &c. They may sit with Comfort in any Part of the Room, which is a very considerable Advantage in a large Family, where there must often be two Fires kept, because all cannot conveniently come at one.

2. If you sit near the Fire, you have not that cold Draught of uncomfortable Air nipping your Back and Heels, as when before common Fires, by which many catch Cold, being scorcht before, and, as it were, froze behind.

3. If you sit against a Crevice, there is not that sharp Draught of cold Air playing on you, as in Rooms where there are Fires in the common way; by which many catch Cold, whence proceed Coughs,[1] Catarrhs, Tooth-achs, Fevers, Pleurisies, and many other Diseases.

4. In Case of Sickness, they make most excellent Nursing-Rooms; as they constantly supply a Sufficiency of fresh Air, so warmed at the same time as to be no way inconvenient or dangerous. A small One does well in a Chamber; and, the Chimneys being fitted for it, it may be remov'd from one Room to another, as Occasion requires, and fix'd in half an Hour. The equal Temper, too, and Warmth, of the Air of the Room, is thought to be particularly advantageous in some Distempers: For 'twas observ'd in the Winters of 1730 and 1736, when the Small-Pox spread in *Pennsylvania*, that very few of the Children of the *Germans* died of that Distemper in Proportion to those of the *English;* which was ascrib'd by some to the Warmth and equal Temper of Air in their Stove-Rooms; which made the Disease as favourable as it commonly is in the *West Indies*. But this Conjecture we submit to the judgment of Physicians.

[1] My Lord *Molesworth*, in his account of *Denmark*, says, "That few or none of the People there are troubled with Coughs, Catarrhs, Consumptions, or such like Diseases of the Lungs; so that in the Midst of Winter in the Churches, which are very much frequented, there is no Noise to interrupt the Attention due to the Preacher. I am persuaded" (says he) "their *warm Stoves* contribute to their Freedom from these kinds of Maladies," page 91. —F.

5. In common Chimneys, the strongest Heat from the Fire, which is upwards, goes directly up the Chimney, and is lost; and there is such a strong Draught into the Chimney, that not only the upright Heat, but also the back, sides, and downward Heats are carried up the Chimney by that Draught of Air; and the Warmth given before the Fire, by the Rays that strike out towards the Room, is continually driven back, crouded into the Chimney, and carried up, by the same Draught of Air. But here the upright Heat strikes and heats the Top Plate, which warms the Air above it, and that comes into the Room. The Heat likewise, which the Fire communicates to the Sides, Back Bottom and Air-Box, is all brought into the Room; for you will find a constant Current of warm Air coming out of the Chimney-Corner into the Room. Hold a Candle just under the Mantle-Piece, or Breast of your Chimney, and you will see the Flame bent outwards: By laying a Piece of Smoaking Paper on the Hearth, on either Side, you may see how the Current of Air moves, and where it tends, for it will turn and carry the Smoke with it.

6. Thus, as very little of the Heat is lost, when this Fire-Place is us'd, *much less Wood*[1] will serve you, which is a considerable Advantage where Wood is dear.

[1] People, who have us'd these Fire-places, differ much in their Accounts of the Wood saved by them. Some say five sixths, others three fourths, and others much less. This is owing to the great Difference there was in their former Fires; some (according to the different Circumstances of their Rooms and Chimneys) having been us'd to make very large, others middling, and others, of a more sparing Temper, very small Ones. While in these Fire-Places (their Size and Draught being nearly the same) the Consumption is more equal. I suppose, taking a Number of Families together, that two thirds, or half the Wood, at least, is saved. My common Room, I know, is made twice as warm as it used to be, with a quarter of the Wood I formerly consum'd there. — F.

7. When you burn Candles near this Fire-Place, you will find that the Flame burns quite upright, and does not blare and run the Tallow down, by drawing towards the Chimney, as against common Fires.

8. This Fire-place cures most smoaky chimneys, and thereby preserves both the Eyes and Furniture.

9. It prevents the Fouling of Chimneys; much of the Lint and Dust that contributes to foul a Chimney, being by the low Arch oblig'd to pass thro' the Flame, where 'tis consum'd. Then, less Wood being burnt, there is less Smoke made. Again, the Shutter, or Trap-Bellows, soon blowing the Wood into a Flame, the same Wood does not yield so much Smoke as if burnt in a common Chimney: For as soon as Flame begins, Smoke, in proportion, ceases.

10. And, if a Chimney should be foul, 'tis much less likely to take Fire. If it should take Fire, 'tis easily stifled and extinguished.

11. A Fire may be very speedily made in this Fire-Place, by the Help of the Shutter, or Trap-Bellows, as aforesaid.

12. A Fire may be soon extinguished by closing it with the Shutter before, and turning the Register behind, which will stifle it, and the Brands will remain ready to rekindle.

13. The Room being once warm, the Warmth may be retain'd in it all Night.

14. And lastly, the Fire is so secur'd at Night, that not one Spark can fly out into the Room to do Damage.

With all these Conveniencies, you do not lose the pleasing Sight nor Use of the Fire, as in the Dutch Stoves, but may boil the Tea-Kettle, warm the Flat-Irons, heat Heaters, keep warm a Dish of Victuals by setting it on the Top, &c. &c.

Objections answered

There are some Objections commonly made by People that are unacquainted with these Fire-Places, which it may not be amiss to endeavour to remove, as they arise from Prejudices which might otherwise obstruct in some Degree the general Use of this beneficial Machine. We frequently hear it said, *They are of the Nature of Dutch Stoves; Stoves have an unpleasant Smell; Stoves are unwholesome; and Warm Rooms make People tender, and apt to catch Cold.* As to the first, that they are of the Nature of *Dutch* Stoves, the Description of those Stoves in the Beginning of this Paper, compar'd with that of these Machines, shows that there is a most material Difference, and that these have vastly the Advantage, if it were only in the single Article of the Admission and Circulation of fresh Air. But it must be allowed there may have been some Cause to complain of the offensive Smell of Iron Stoves. This Smell, however, never proceeded from the Iron itself, which in its Nature, whether hot or cold, is one of the sweetest of Metals, but from the general uncleanly Manner of using those Stoves. If they are kept clean, they are as sweet as an Ironing-Box, which, tho' ever so hot, never offends the Smell of the nicest Lady; but it is common to let them be greased by setting Candlesticks on them, or otherwise; to rub greasy Hands on them, and, above all, to spit upon them to try how hot they are, which is an inconsiderate, filthy unmannerly Custom; for the slimy Matter of Spittle drying on, burns and fumes when the Stove is hot, as well as the Grease, and smells most nauseously; which makes such close Stove-Rooms, where there is no Draught to carry off those filthy Vapours, almost intolerable

to those that are not from their Infancy accustomed to them. At the same time, nothing is more easy than to keep them clean; for when by any Accident they happen to be fouled, a Lee made of Ashes and Water, with a Brush, will scour them perfectly; as will also a little strong Soft Soap and Water.

That hot Iron of itself gives no offensive Smell, those know very well who have (as the Writer of this has) been present at a Furnace when the Workmen were pouring out the flowing Metal to cast large Plates, and not the least Smell of it to be perceived. That hot Iron does not, like Lead, Brass, and some other Metals, give out unwholesome Vapours, is plain from the general Health and Strength of those who constantly work in Iron, as Furnace-men, Forge-men, and Smiths; That it is in its Nature a Metal perfectly wholesome to the Body of Man, is known from the beneficial Use of Chalybeat or Iron-Mine Waters; from the Good done by taking Steel Filings in several Disorders; and that even the Smithy Water, in which hot Irons are quench'd, is found advantageous to the human Constitution. The ingenious and learned Dr. *Desaguliers*, to whose instructive Writings the Contriver of this Machine acknowledges himself much indebted, relates an Experiment he made, to try whether heated Iron would yield unwholesome Vapours. He took a Cube of Iron, and having given it a very great Heat, he fix'd it so to a Receiver, exhausted by the Air-Pump, that all the Air rushing in to fill the Receiver, should first pass thro' a Hole in the hot Iron. He then put a small Bird into the Receiver, who breath'd that Air without any Inconvenience, or suffering the least Disorder. But the same Experiment being made with a Cube of hot Brass, a Bird put into that

Air dy'd in a few Minutes. Brass, indeed, stinks even when cold, and much more when hot; Lead too, when hot, yields a very unwholesome Steam; but Iron is always sweet, and every way taken is wholesome and friendly to the human Body, — except in Weapons.

That warm Rooms make People tender and apt to catch Cold, is a Mistake as great as it is (among the *English*) general. We have seen in the preceding Pages how the common Rooms are apt to give Colds; but the Writer of this Paper may affirm, from his own Experience, and that of his Family and Friends who have used warm Rooms for these four Winters past, that by the Use of such Rooms, People are rendered *less liable* to take Cold, and, indeed, *actually hardened*. If sitting warm in a Room made One subject to take Cold on going out, lying warm in Bed should, by a Parity of Reason, produce the same Effect when we rise. Yet we find we can leap out of the warmest Bed naked in the coldest Morning, without any such Danger; and in the same Manner out of warm Clothes into a cold Bed. The Reason is, that in these Cases the Pores all close at once, the Cold is shut out, and the Heat within augmented, as we soon after feel by the glowing of the Flesh and Skin. Thus, no one was ever known to catch Cold by the use of the Cold Bath: And are not cold Baths allowed to harden the Bodies of those that use them? Are they not therefore frequently prescrib'd to the tenderest Constitutions? Now, every Time you go out of a warm Room into the cold freezing Air, you do as it were plunge into a Cold Bath, and the Effect is in proportion the same; for (tho' perhaps you may feel somewhat chilly at first) you find in a little Time your Bodies hardened and strengthened, your Blood is driven round with

a brisker Circulation, and a comfortable, steady, uniform inward Warmth succeeds that equal outward Warmth you first received in the Room. Farther to confirm this Assertion, we instance the *Swedes*, the *Danes*, the *Russians;* these Nations are said to live in Rooms, compar'd to ours, as hot as Ovens;[1] yet where are the hardy Soldiers, tho' bred in their boasted cool Houses, that can, like these People, bear the Fatigues of a Winter Campaign in so severe a Climate, march whole Days to the Neck in Snow, and at Night entrench in Ice, as they do?

The Mentioning of those Northern Nations puts me in Mind of a considerable *Publick Advantage* that may arise from the general Use of these Fire-places. It is observable, that tho' those Countries have been well inhabited for many Ages, Wood is still their Fuel, and yet at no very great Price; which could not have been if they had not universally used Stoves, but consum'd it as we do in great Quantities, by open Fires. By the Help of this saving Invention our Wood may grow as fast as we consume it, and our Posterity may warm themselves at a moderate Rate, without being oblig'd to fetch their Fuel over the *Atlantick;* as, if Pit-Coal should

[1] Mr. *Boyle*, in his Experiments and Observations upon Cold, *Shaw's Abridgment*, Vol. I. p. 684, says, "'Tis remarkable, that, while the Cold has strange and tragical Effects at Moscow and elsewhere, the *Russians* and *Livonians* should be exempt from them, who accustom themselves to pass immediately from a great Degree of Heat, to as great an one of Cold, without receiving any visible Prejudice thereby. I remember, being told by a Person of unquestionable Credit, that it was a common Practice among them, to go from a hot Stove into cold Water; the same was, also, affirmed to me by another who resided at *Moscow*. This Tradition is likewise abundantly confirmed by *Olearius*." "'Tis a surprizing thing," says he, "to see how far the Russians can endure Heat; and how, when it makes them ready to faint, they can go out of their Stoves, stark naked, both Men and Women, and throw themselves into cold Water, and even in Winter wallow in the Snow." — F.

not be here discovered (which is an Uncertainty) they must necessarily do.

We leave it to the *Political Arithmetician* to compute how much Money will be sav'd to a Country, by its spending two thirds less of Fuel; how much Labour saved in Cutting and Carriage of it; how much more Land may be clear'd for Cultivation; how great the Profit by the additional Quantity of Work done, in those Trades particularly that do not exercise the Body so much, but that the Workfolks are oblig'd to run frequently to the Fire to warm themselves: And to physicians to say, how much healthier thick-built Towns and Cities will be, now half suffocated with sulphury Smoke, when so much less of that Smoke shall be made, and the Air breath'd by the Inhabitants be consequently so much purer. These Things it will suffice just to have mentioned; let us proceed to give some necessary Directions to the Workman, who is to fix or set up these Fire-Places.

Directions to the Bricklayer

The Chimney being first well swept and cleans'd from Soot, &c., lay the Bottom Plate down on the Hearth, in the Place where the Fire-Place is to stand, which may be as forward as the Hearth will allow. Chalk a Line from one of its back Corners round the Plate to the other Corner, that you may afterwards know its Place when you come to fix it; and from those Corners, two parallel Lines to the Back of the Chimney: Make Marks also on each Side, that you may know where the Partition is to stand, which is to prevent any Communication between the Air and Smoke. Then removing the Plate, make a Hollow under it and beyond it, by taking up as many of the Bricks or Tiles as you can within

your chalked Lines, quite to the Chimney-Back. Dig out six or eight Inches deep of the Earth or Rubbish all the Breadth and Length of your Hollow; then make a Passage of four Inches square, (if the Place will allow so much) leading from the Hollow to some Place communicating with the outer Air; by *outer Air* we mean Air without the Room you intend to warm. This Passage may be made to enter your Hollow on either Side, or in the Fore part, just as you find most convenient, the Circumstances of your Chimney considered. If the Fire-Place is to be put up in a Chamber, you may have this Communication of outer Air from the Staircase; or sometimes more easily from between the Chamber Floor and the Cieling of the lower Room, making only a small Hole in the Wall of the House entring the Space betwixt those two Joists with which your Air-Passage in the Hearth communicates. If this Air-Passage be so situated as that Mice may enter it and nestle in the Hollow, a little Grate of Wire will keep them out. This Passage being made, and, if it runs under any Part of the Hearth, til'd over securely, you may proceed to raise your false Back. This may be of four Inches or two Inches Thickness, as you have Room, but let it stand at least four Inches from the true Chimney-Back. In narrow Chimnies this false Back runs from Jamb to Jamb, but in large, old-fashion'd Chimnies you need not make it wider than the Back of the Fire-place. To begin it, you may form an Arch nearly flat of three Bricks End to End, over the Hollow, to leave a Passage the Breadth of the Iron Fire-Place, and five or six Inches deep, rounding at Bottom, for the Smoke to turn and pass under the false Back, and so behind it up the Chimney. The false Back is to rise till it is as high as the Breast of the Chimney, and then

to close over to the Breast; always observing, if there is a wooden Mantle-Tree, to close above it. If there is no Wood in the Breast, you may arch over and close even with the lower Part of the Breast. By this Closing the Chimney is made tight, that no Air or Smoke may pass up it, without going under the false Back. Then from Side to Side of your Hollow, against the Marks you made with Chalk, raise a tight Partition, Brick-on-Edge, to separate the Air from the Smoke, bevelling away to half an Inch the Brick that comes just under the Air-Hole, that the Air may have a free Passage up into the Air-Box: Lastly, close the Hearth over that Part of the Hollow that is between the false Back and the Place of the Bottom Plate, coming about half an Inch under the Plate, which Piece of hollow Hearth may be supported by a Bit or two of old Iron Hoop; then is your chimney fitted to receive the Fire-Place.

To set it, Lay first a little Bed of Mortar all round the Edges of the Hollow, and over the Top of the Partition: Then lay down your Bottom Plate in its Place (with the Rods in it) and tread it till it lies firm. Then put a little fine Mortar (made of Loam and Lime, with a little Hair,) into its Joints, and set in your back Plate, leaning it for the present against the false Back; then set in your Air-Box, with a little Mortar in its Joints; then put in the two Sides, closing them up against the Air-Box, with Mortar in their Grooves, and fixing at the same time your Register; then bring up your Back to its Place, with Mortar in its Grooves, and that will bind the Sides together. Then put in your Front Plate, placing it as far back in the Groove as you can, to leave Room for the sliding Plate; Then lay on your Top Plate, with Mortar in its Grooves also, screwing the whole firmly together

by means of the Rods. The Capital letters, *A*, *B*, *D*, *E*, &c., in the annex'd cut, show the corresponding Parts of the several Plates. Lastly, the Joints being pointed all round on the Outside, the Fire-Place is fit for Use.

When you make your first Fire in it, perhaps, if the Chimney be thoroughly cold, it may not draw, the Work too being all cold and damp. In such Case, put first a few Shovels of hot Coals in the Fire-Place, then lift up the Chimney sweeper's Trap-Door, and putting in a Sheet or two of flaming Paper, shut it again, which will set the Chimney a Drawing immediately, and, when once 'tis fill'd with a Column of warm Air, it will draw strongly and continually.

The Drying of the Mortar and Work by the first Fire may smell unpleasantly, but that will soon be over.

In some shallow Chimneys, to make more Room for the false Back and its Flue, Four Inches or more of the Chimney-Back may be pick'd away.

Let the Room be made as tight as conveniently it may be, so will the outer Air that must come in to supply the Room and Draught of the Fire, be all obliged to enter thro' the Passage under the Bottom-Plate, and up thro' the Air-Box; by which Means it will not come cold to your Backs, but be warmed as it comes in, and mixed with the warm Air round the Fire-Place, before it spreads in the Room.

But as a great Quantity of cold Air, in extream cold Weather especially, will presently enter a Room if the Door be carelessly left open, 'tis good to have some Contrivance to shut it, either by Means of Screw Hinges, a Spring, or a Pulley.

When the Pointing in the Joints is all dry and hard, get some Powder of Black-Lead, (broken Bits of Black-Lead

Crucibles from the Silversmiths, pounded fine, will do) and mixing it with a little Rum and Water, lay it on, when the Plates are warm, with a hard Brush, over the Top and Front-Plates, part of the Side and Bottom-Plates, and over all the Pointing; and, as it dries, rub it to a Gloss with the same Brush, so the Joints will not be discern'd, but it will look all of a Piece, and shine like new Iron. And the false Back being plaister'd and whitewash'd, and the Hearth redden'd, the whole will make a pretty Appearance. Before the Black Lead is laid on, it would not be amiss to wash the Plates with strong Lee and a Brush, or Soap and Water, to cleanse them from any Spots of Grease or Filth that may be on them. If any Grease should afterwards come on them, a little wet Ashes will get it out.

If it be well set up, and in a tolerable good Chimney, Smoke will draw in from as far as the Fore Part of the Bottom Plate, as you may try by a Bit of burning Paper.

People are at first apt to make their Rooms too warm, not imagining how little a Fire will be sufficient. When the Plates are no hotter than that one may just bear the Hand on them, the Room will generally be as warm as you desire it.

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44. TO CADWALLADER COLDEN [1] (L. C.)

SIR New York, April 5. 1744.

Happening to be in this City about some particular Affairs, I have the Pleasure of receiving yours of the 28th past, here. And can now acquaint you, that the Society, as far as

[1] This letter was first printed in *The American Medical and Philosophical Register* for October, 1811, Vol. II. p. 203. The manuscript was obtained by the editors from the papers of Cadwallader Colden. Accompanying the printed

relates to Philadelphia, is actually formed, and has had several Meetings to mutual Satisfaction; as soon as I get home, I shall send you a short Acc^{t} of what has been done and propos'd at those Meetings. The Members are

Dr. Thomas Bond, as Physician.
Mr. John Bartram, as Botanist.
Mr. Thomas Godfrey, as Mathematician.
Mr. Saml Rhodes, as Mechanician.
Mr. Wm Parsons, as Geographer.
Dr. Phineas Bond, as General Nat. Philosopher.
Mr. Thos. Hopkinson, President.
Mr. Wm Coleman, Treasurer.
B. F ——, Secret'^{y}.

To whom the following Members have since been added, viz. Mr. Alexander, of New York. Mr. Morris, (Ch. Justice of the Jerseys.) Mr. Home, Secretary of do. Mr. Jn. Coxe, of Trenton and Mr. Martyn, of the same Place. Mr. Nicholls tells me of several other Gentlemen of this City, that incline to encourage the Thing. And there are a Number of others, in Virginia, Maryland, Carolina, and the New England Colonies, who we expect to join us, as soon as they are acquainted that the Society has begun to form itself.

I am, Sir, with much Respect,

Your most hum^{e} serv^{t},

B. FRANKLIN.

letter is a beautiful *fac-simile* of the original in the handwriting of Franklin. THE AMERICAN PHILOSOPHICAL SOCIETY, as afterwards instituted, was formed out of two Societies, of which the above was one. The other was the *Society for promoting and propagating Useful Knowledge.* The two Societies were incorporated into one, called THE AMERICAN PHILOSOPHICAL SOCIETY, in December, 1768; and in January, 1769, Franklin was elected the first President, although he was at that time in England. — ED.

45. TO WILLIAM STRAHAN (P. C.)

Philadelphia, July 4, 1744.

SIR: — I received your favour *per* Mr. Hall, who arrived here about two weeks since, and from the short acquaintance I have had with him I am persuaded he will answer perfectly the character you had given of him. I make no doubt but his voyage, though it has been expensive, will prove advantageous to him. I have already made him some proposals, which he has under consideration, and as we are like to agree on them, we shall not, I believe, differ on the article of his passage money.

I am much obliged to you for your care and pains in procuring me the founding tools; though I think, with you, that the workmen have not been at all bashful in making their bills. I shall pay a proportion of the insurance, etc., to Mr. Read, and send you a bill by the next opportunity.

I thank you for Mr. Dobbs' piece.[1] I wish that public-spirited gentleman may live to enjoy the satisfaction of hearing that English vessels sail easily through his expected passage. But though from the idea this piece gives me of Capt. Middleton I don't much like him, yet I would do him the justice to read what he has to say for himself, and therefore request you to send me what is published on his side of the question. I have long wanted a friend in London, whose judgment I would depend on, to send me from time

[1] Arthur Dobbs (1689–1765) was interested in the Search for a Northwest passage to India and China. Christopher Middleton, a captain of the Hudson Bay Company, commanded the voyage of discovery. Dobbs accused him of making false reports of the voyage. The pamphlet referred to above is entitled "Remarks on Capt. Middleton's Defence, by A. Dobbs" (London: 1744). Middleton's "Rejoinder" appeared the next year.

to time such new pamphlets as are worth reading on any subject (religious controversy excepted), for there is no depending on titles and advertisements. This favour I take the freedom to beg of you, and shall lodge money in your hands for that purpose.

We have seldom any news on our side of the globe that can be entertaining to you or yours. All our affairs are *petit*. They have a miniature resemblance only, of the grand things of Europe. Our governments, parliaments, wars, treaties, expeditions, fashions, etc., though matters of great and serious consequence to us, can seem but trifles to you. Four days since, our naval force received a terrible blow. Fifty sail of the line destroyed would scarce be a greater loss to Britain than that to us, — and yet 'twas only a 20-gun-ship sunk, and about one hundred men drowned, just as she was going out to sea on a privateering voyage against the king's enemies. She was overset by a flaw of wind, being built too sharp, and too high-masted. A treaty is now holding at Newtown, in Lancaster County, a place sixty miles west of this city, between the governments of Virginia, Maryland and Pennsylvania on one side, and the united five nations of Indians on the other.[1] I will send you an account of it when printed, as the method of doing business with those barbarians may perhaps afford you some amusement.

We have already in our library Bolton's and Shaw's abridgments of Boyle's works. I shall, however, mention to the directors the edition of his works at large;[2] possibly they may think fit to send for it.

[1] See Cadwallader Colden, "The History of the Five Indian Nations," London, 1747, pp. 89–152. The Treaty was held from June 22 to July 4.

[2] Richard Boulton, "The Works of Robert Boyle Epitomized," London:

Please to remember me affectionately to my old friend Mr. Wigate, to whom I shall write *per* next opportunity. I am, sir, your obliged humble servant,

B. FRANKLIN.

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46. TO WILLIAM STRAHAN

July 31, 1744.

SIR: — The above is a copy of my last (*via* Coke). This encloses bills for twenty pounds thirteen shillings sterling, for which when received please to give my account credit, and send me by the first ship a font of about 300 lb. wt. of good new English letter, which I shall want to complete a little printing-house for our common friend Mr. Hall. I send you *per* this ship a box containing 300 copies of a piece I have lately printed here,[1] and purpose to send you 200 more *per* next ship. I desire you to take the properest measures for getting them sold at such a price as they will readily fetch, and I will take books of you in exchange for them. This kind of commerce may be advantageous to us both, and to Mr. Hall; since, if we have a reasonable sale where we live, for such things as we print, what we do over and above, and can get disposed of at a foreign market, is almost so much clear gain. I have only time to add that I am, with sincere regard, your obliged humble servant,

B. FRANKLIN.

1699. 4 vols. Octavo. Peter Shaw, "The Philosophical Works of Robert Boyle abridged and methodized." London: 1738. The Library purchased and still possesses the complete edition of 1744. — ED.

[1] Logan's "Cato Major." — ED.

47. TO JOSIAH AND ABIAH FRANKLIN[1]

Philadelphia, September 6, 1744.

HONOURED FATHER AND MOTHER,

I apprehend I am too busy in prescribing and meddling in the doctor's sphere, when any of you complain of ails in your letters. But as I always employ a physician myself, when any disorder arises in my family, and submit implicitly to his orders in every thing, so I hope you consider my advice, when I give any, only as a mark of my good will, and put no more of it in practice than happens to agree with what your doctor directs.

Your notion of the use of strong lye I suppose may have a good deal in it. The salt of tartar, or salt of wormwood, frequently prescribed for cutting, opening, and cleansing, is nothing more than the salt of lye procured by evaporation. Mrs. Stevens's medicine for the stone and gravel, the secret of which was lately purchased at a great price by the Parliament, has for its principal ingredient salt, which Boerhaave calls the most universal remedy. The same salt intimately mixed with oil of turpentine, which you also mentioned, make the *sapo philosophorum*, wonderfully extolled by some chemists for like purposes. It is highly probable, as your doctor says, that medicines are much altered in passing between the stomach and bladder; but such salts seem well fitted in their nature to pass with the least alteration of almost anything we know; and, if they will not dissolve

[1] From "The Works of Benjamin Franklin." Philadelphia: (Duane) 1817, Vol. VI, p. 6. — ED.

gravel and stone, yet I am half persuaded that a moderate use of them may go a great way towards preventing these disorders, as they assist a weaker digestion in the stomach, and powerfully dissolve crudities such as those which I have frequently experienced. As to honey and molasses, I did not mention them merely as openers and looseners, but also from conjecture, that, as they are heavier in themselves than our common drink, they might when dissolved in our bodies increase the gravity of our fluids, the urine in particular, and by that means keep separate and suspended therein those particles, which, when unused, form gravel, &c.

I will inquire after the herb you mention. We have a botanist here, an intimate friend of mine, who knows all the plants in the country.[1] He would be glad of the correspondence of some gentlemen of the same taste with you, and has twice, through my hands, sent specimens of the famous Chinese *ginseng*, found here, to persons who desired it in Boston, neither of whom has had the civility to write him a word in answer, or even to acknowledge the receipt of it, of which please to give a hint to brother John.

We have had a very healthy summer and a fine harvest; the country is filled with bread; but, as trade declines since the war began, I know not what our farmers will do for a market. I am your affectionate and dutiful son,

B. FRANKLIN.

[1] John Bartram. — ED.

48. TO JOHN FRANKLIN, AT BOSTON[1]

PHILADELPHIA, [Mar. 10,] 1745.

— Our people are extremely impatient to hear of your success at Cape Breton. My shop is filled with thirty inquirers at the coming in of every post. Some wonder the place is not yet taken. I tell them I shall be glad to hear that news three months hence. Fortified towns are hard nuts to crack; and your teeth have not been accustomed to it. Taking strong places is a particular trade, which you have taken up without serving an apprenticeship to it. Armies and veterans need skilful engineers to direct them in their attack. Have you any? But some seem to think forts are as easy taken as snuff. Father Moody's prayers look tolerably modest. You have a fast and prayer day for that purpose; in which I compute five hundred thousand petitions were offered up to the same effect in New England, which added to the petitions of every family morning and evening, multiplied by the number of days since January 25th, make forty-five millions of prayers; which, set against the prayers of a few priests in the garrison, to the Virgin Mary, give a vast balance in your favour.

If you do not succeed, I fear I shall have but an indifferent opinion of Presbyterian prayers in such cases, as long as I live. Indeed, in attacking strong towns I should have more dependence on *works*, than on *faith;* for, like the king-

[1] This letter is undated, but from Franklin's ecclesiastical mathematics it would appear to have been written on the tenth of March. His calculation of 500,000 inhabitants of New England is perhaps 100,000 in excess of the actual population. The news of the fall of Louisburg came at about the time that Franklin predicted. — ED.

dom of heaven, they are to be taken by force and violence; and in a French garrison I suppose there are devils of that kind, that they are not to be cast out by prayers and fasting, unless it be by their own fasting for want of provisions. I believe there is Scripture in what I have wrote, but I cannot adorn the margin with quotations, having a bad memory, and no Concordance at hand; besides no more time than to subscribe myself, &c.

B. FRANKLIN.

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49. TO CADWALLADER COLDEN

PHILADELPHIA, August 15, 1745.

SIR,

I received your favour of the 20th past, with your medical piece enclosed, the reading of which gave me a great deal of pleasure. I showed it to our friend Mr. Bartram, who carried it home, and, as he since tells me, is taking a copy of it. His keeping of it for that end has prevented my showing it to any other gentleman as you desired, and hitherto prevented my writing to you upon it, as I intended. But, lest you should conclude me the very worst correspondent in the world, I shall delay no longer giving you some thoughts, that occurred to me in reading of it, choosing rather to be blamed for not writing to the purpose, than for not writing at all.

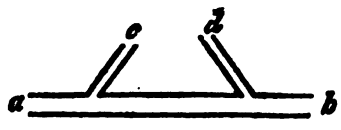
I am extremely pleased with your doctrine of the *absorbent vessels* intermixed with the perspiratory ducts, both on the external and internal superficies of the body. After I had read Sanctorius, I imagined a constant stream of the perspirable matter issuing at *every* pore in the skin. But then I

was puzzled to account for the effects of mercurial unctions for the strangury, sometimes occasioned by an outward application of the flies, and the like; since whatever virtue or quality might be in a medicine laid upon the skin, if it would enter the body, it must go against wind and tide, as one may say. Dr. Hales helped me a little, when he informed me, in his *Vegetable Statics*,[1] that the body is not always in a perspirable, but sometimes in an *imbibing state*, as he expresses it, and will at times actually grow heavier by being exposed to moist air. But this did not quite remove my difficulty; since, as these fits of imbibing did not appear to be regular or frequent, a blistering plaster might lie on the body a week, or a mercurial unguent be used a month, to no purpose, if the body should so long continue in a perspirable state. Your doctrine, which was quite new to me, makes all easy; since the body may perspire and absorb at the same time, through the different ducts destined to those different ends.

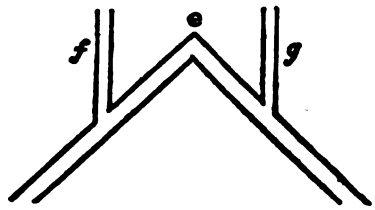
I must own, however, that I have one objection to the explanation you give of the operation of these absorbents. That they should communicate with the veins, and the perspirants with the arteries only, seems natural enough; but, as all fluids by the hydrostatical law pass equally in all directions, I question whether the *mere direction* of one of those minute vessels, where it joins with a vein or artery, *with* or *against* the stream of blood in the larger vessel, would be sufficient to produce such contrary effects as *perspiring* and *absorbing*. If it would, both perspirants and absorbents might proceed from the arteries only, or from the veins only,

[1] Stephen Hales (1677–1761), "Vegetable Staticks, or an Account of some Statical Experiments on the Sap in Vegetables." London: 1727. — Ed.

or from both indifferently; as, by the figure in the margin, whether the vessel *a b* is an artery or a vein, if the stream moves from *a* to *b*, the minute communicating vessel *c* shall be a perspirant, and *d* an absorbent; and the contrary, if it moves from *b* to *a*. Yet I cannot say I am certain the mere direction of the vessel will have no effect; I only suspect it, and am making a little machine to try an experiment with for satisfaction.



It is a siphon made of two large joints of Carolina cane united at *e*, into which two small glass tubes, *f* and *g*, are to be inserted, one on the descending, and the other on the ascending side. I propose to fill the siphon and the two glass tubes with water, and, when it is playing, unstop at the same instant the tops of both glass tubes, observing in which the water sinks fastest. You shall know the success. I conceive the pressure of the atmosphere on the apertures of the two glass tubes to be no way different from the pressure of the same on the mouths of the perspirants and absorbents, and if the water sinks equally in the two tubes, notwithstanding the direction of one against and the other with the stream, I shall be ready to think we must look out for another solution. You will say, perhaps, that it will then be time enough when the experiment is tried, and succeeds as I suspect; yet I cannot forbear attempting at one beforehand, while some thoughts are present in my mind.



If a new solution should be found necessary, this may be ready for consideration.

I do not remember, that any anatomist, that has fallen in my way, has assigned any other cause of the motion of the blood through its whole circle, than the contractile force of the heart, by which that fluid is driven with violence into the arteries, and so continually propelled by repetitions of the same force, till it arrives at the heart again. May we for our present purpose suppose another cause producing half the effect, and say that the ventricles of the heart, like syringes, *draw* when they dilate, as well as force when they contract? That this is not unlikely, may be judged from the valves nature has placed in the arteries, to prevent the drawing back of the blood in those vessels when the heart dilates, while no such obstacles prevent its sucking (to use the vulgar expression) from the veins. If this be allowed, and the insertion of the absorbents into the veins and of the perspirants into the arteries be agreed to, it will be of no importance in what direction they are inserted. For, as the branches of the arteries are continually lessening in their diameters, and the motion of the blood decreasing by means of the increased resistance, there must, as more is constantly pressed on behind, arise a kind of *crowding* in the extremities of those vessels, which will naturally *force out* what is contained in the perspirants that communicate with them. This lessens the quantity of blood, so that the heart cannot receive again by the veins all it had discharged into the arteries, which occasions it to draw strongly upon the absorbents, that communicate with them. And thus the body is continually perspiring and imbibing. Hence after long fasting the body is more liable to receive infection from bad air, and food,

before it is sufficiently chylified, is drawn crude into the blood by the absorbents that open into the bowels.

To confirm this position, that the heart *draws*, as well as *drives* the blood, let me add this particular. If you sit or lean long, in such a manner as to compress the principal artery that supplies a limb with blood, so that it does not furnish a due quantity, you will be sensible of a pricking pain in the extremities like that of a thousand needles; and the veins, which used to raise your skin in ridges, will be (with the skin) sunk into channels; the blood being drawn out of them, and their sides pressed so closely together that it is with difficulty and slowly that the blood afterwards enters them, when the compressed artery is relieved. If the blood was not drawn by the heart, the compression of an artery would not empty a vein, and I conjecture that the pricking pain is occasioned by the sides of the small vessels being pressed together.

I am not without apprehension, that this hypothesis is either not new, or, if it is new, not good for any thing. It may, however, in this letter, with the enclosed paper on a kindred subject, serve to show the great confidence I place in your candor, since to you I so freely hazard myself (*ultra crepidam*) in meddling with matters directly pertaining to your profession, and entirely out of the way of my own. If you give yourself the trouble of reading them, it is all I can modestly expect. Your silence about them afterwards will be sufficient to convince me, that I am in the wrong, and that I ought to study the sciences I dabble in, before I presume to set pen to paper. I will endeavour, however, to make you some amends by procuring you from better judges some better remarks on the rest of your piece, and shall

observe your caution not to let them know from whom I had it.

The piece on Fluxions I purpose shortly to read again, and that on the several species of matter, when you shall have what little I shall be able to say about them.

The members of our Society here are very idle gentlemen. They will take no pains. I must, I believe, alter the scheme and proceed with the papers I have, and may receive, in the manner you advise in one of your former letters. The mention of your former letters puts me in mind how much I am in arrear with you. Like some honest insolvent debtors, I must resolve to pay ready money for what I have hereafter, and discharge the old debt by little and little as I am able.

The impertinence of these mosquitos to me (now I am in the humour of writing) prevents a great deal of mine to you, so that, for once, they are of some use in the world. I am, Sir,

Your most humble servant,

B. FRANKLIN.

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50. TO JAMES READ[1]

SATURDAY MORNING, August 17, 1745.

DEAR JEMMY;

I have been reading your letter over again, and, since you desire an answer, I sit down to write you one; yet, as I write in the market, it will, I believe, be but a short one, though I may be long about it. I approve of your method of writing one's mind, when one is too warm to speak it with temper; but, being quite cool myself in this affair, I might as well speak as write, if I had an opportunity.

[1] A relative of Mrs. Deborah Franklin. — ED.

Are you an attorney by profession, and do you know no better how to choose a proper court in which to bring your action? Would you submit to the decision of a husband, a cause between you and his wife? Don't you know that all wives are in the right? It may be you don't, for you are yet but a young husband. But see, on this head, the learned Coke, that oracle of the law, in his chapter *De Jur. Marit. Angl.* I advise you not to bring it to trial; for, if you do, you will certainly be cast.

Frequent interruptions make it impossible for me to go through all your letter. I have only time to remind you of the saying of that excellent old philosopher, Socrates, *that, in differences among friends, they that make the first concessions are the wisest;* and to hint to you, that you are in danger of losing that honour in the present case, if you are not very speedy in your acknowledgments, which I persuade myself you will be, when you consider the sex of your adversary.

Your visits never had but one thing disagreeable in them, that is, they were always too short. I shall exceedingly regret the loss of them, unless you continue, as you have begun, to make it up to me by long letters.

I am, dear Jemmy, with sincere love to our dearest Suky, your very affectionate friend and cousin,

B. FRANKLIN.

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51. TO CADWALLADER COLDEN

PHILADELPHIA, November 28, 1745.

SIR,

I shall be very willing and ready, when you think proper to publish your piece on gravitation,[1] to print it at my own

[1] "Cause of Gravitation," New York, 1745. — ED.

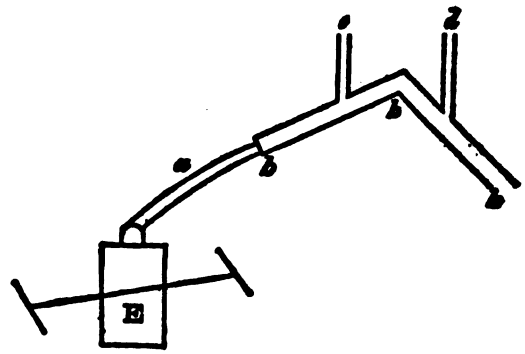
expense and risk. If I can be the means of communicating any thing valuable to the world, I do not always think of gaining, nor even of saving, by my business; but a piece of that kind, as it must excite the curiosity of all the learned, can hardly fail of bearing its own expense.

I must not pretend to dispute with you on any part of the animal economy. You are quite too strong for me. I shall just mention two or three little things, that I am not quite clear in.

If there is no contrivance in the frame of the auricles or ventricles of the heart, by which they dilate themselves, I cannot conceive how they are dilated. It is said, by the force of the venal blood rushing into them. But if that blood has no force which was not first given to it by the contraction of the heart, how can it (diminished as it must be by the resisting friction of the vessels it has passed through) be strong enough to overcome that contraction? Your doctrine of fermentation in the capillaries helps me a little; for if the returning blood be rarefied by the fermentation, its motion must be increased; but, as it seems to me that it must by its expansion resist the arterial blood behind it, as much as it accelerates the venal blood before it, I am still somewhat unsatisfied. I have heard or read somewhere, too, that the hearts of some animals continue to contract and dilate, or to beat, as it is commonly expressed, after they are separated from the other vessels, and taken out of the body. If this be true, their dilation is not caused by the force of the returning blood.

I should be glad to satisfy myself, too, whether the blood is always quicker in motion, when the pulse beats quicker. Perhaps more blood is driven forward by one strong, deep

stroke, than by two that are weak and light; as a man may breathe more air by one long common respiration, when in health, than by two quick, short ones in a fever. I applied the siphon I mentioned to you in a former letter to the pipe of a water-engine. *E* is the engine; *a*, its pipe; *b b b*, the



siphon; *c* and *d*, the two glass pipes communicating with the siphon. Upon working the engine, the water flowed through the siphon, and the glass tube *c*; but none was discharged through *d*. When I stopped with my finger the end of the siphon, the water issued at both glass tubes, with equal force, and on only half stopping the end of the siphon, it did the same. I imagine the sudden bending of the siphon gives such a resistance to the stream, as to occasion its issuing out of the glass tube *c*. But I intend to try a farther experiment, of which I shall give you an account.

I am now determined to publish an *American Philosophical Miscellany*, monthly or quarterly. I shall begin with next January, and proceed as I find encouragement and assistance. As I purpose to take the compiling wholly upon myself, the reputation of no gentleman or society will be affected by

what I insert of another's; and that perhaps will make them more free to communicate. Their names shall be published or concealed, as they think proper, and care taken to do exact justice to matters of invention, &c. I shall be glad of your advice in any particulars that occurred to you in thinking of this scheme; for, as you first proposed it to me, I doubt not but you have well considered it.[1]

I have not the original of Dr. Mitchell's tract on the Yellow Fever.[2] Mine is a copy I had taken, with his leave, when here. Mr. Evans will make a copy of it for you.

I hope it will be confirmed by future experiment, that the *yaws* are to be cured by tar-water. The case you relate to Dr. Mitchell gives great hopes of it, and should be published, to induce people to make trials. For, though it should not always succeed, I suppose there is no danger of its doing any harm.

As to your pieces on Fluxions and the different species of matter, it is not owing to reservedness that I have not yet sent you my thoughts; but because I cannot please myself with them, having had no leisure yet to digest them. If I was clear, that you are anywhere mistaken, I would tell you so, and give my reasons with all freedom, as believing nothing I

[1] It does not appear that this scheme was ever carried into execution. — S.

[2] Dr. John Mitchell, a physician and botanist, of unknown origin, settled early in the eighteenth century at Urbanna on the Rappahannock. Peter Collinson read before the Royal Society, his "Essay upon the Causes of the different Colours of People in different Climates." He left his "Essay upon the Yellow Fever," in manuscript. Benjamin Rush read it and derived from it new views of the nature of that malady when it appeared in Philadelphia in 1793. Rush desired it to be printed in *The American Medical and Philosophical Register*, and it appeared there in October, 1813 (Vol. IV. p. 181). Rush obtained the manuscript from Franklin who had it from Dr. Mitchell. See Miller's "Retrospect," Vol. I. p. 318. —ED.

could do would be more obliging to you. I am persuaded you think, as I do, that he who removes a prejudice, or an error, from our minds, contributes to their beauty, as he would do to that of our faces, who should clear them of a wart or a wen.

I have a friend gone to New York with a view of settling there, if he can meet with encouragement. It is Dr. John Bard,[1] whom I esteem an ingenious physician and surgeon, and a discreet, worthy, and honest man. If, upon conversation with him, you find this character just, I doubt not but you will afford him your advice and countenance, which will be of great service to him in a place where he is entirely a stranger, and very much oblige, Sir,

Your most humble servant,

B. FRANKLIN.

P. S. I shall forward your letter to Dr. Mitchell. Thank you for leaving it open for my perusal.

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52. PREFACE TO POOR RICHARD, 1746

Who is *Poor Richard?* People oft enquire,
Where lives? What is he? never yet the nigher.
Somewhat to ease your Curiositee,
Take these slight Sketches of my Dame and me.
Thanks to kind Readers and a careful Wife,
With plenty bless'd, I lead an easy Life;
My business Writing; less to drain the Mead,

[1] Dr. John Bard (1716–1799), first president of The New York Medical Society. This introduction was the origin of a long and intimate friendship between Dr. Bard and Mr. Colden. — ED.

Or crown the barren Hill with useful Shade;
In the smooth Glebe to see the Plowshare worn,
And fill the Granary with needful Corn.
Press nectareous Cyder from my loaded Trees,
Print the sweet Butter, turn the Drying Cheese.
Some Books we read, tho' few there are that hit
The happy Point where Wisdom joins with Wit;
That set fair Virtue naked to our View,
And teach us what is *decent*, what is *true*.
The Friend sincere, and honest Man, with Joy
Treating or treated oft our Time employ.
Our Table next, Meals temperate; and our Door
Op'ning spontaneous to the bashful Poor.
Free from the bitter Rage of Party Zeal,
All those we love who seek the publick Weal.
Nor blindly follow Superstitious Love,
Which cheats deluded Mankind o'er and o'er,
Not over righteous, quite beyond the Rule,
Conscience perplext by every canting Tool.
Nor yet when Folly hides the dubious Line,
When Good and Bad the blended Colours join:
Rush indiscreetly down the dangerous Steep,
And plunge uncertain in the darksome Deep.
Cautious, if right; if wrong resolv'd to part
The Inmate Snake that folds about the Heart.
Observe the *Mean*, the *Motive*, and the *End*,
Mending ourselves, or striving still to mend.
Our Souls sincere, our Purpose fair and free,
Without Vain Glory or Hypocrisy:
Thankful if well; if ill, we kiss the Rod;
Resign with Hope, and put our Trust in God.

53. TO WILLIAM STRAHAN

PHILADELPHIA, December 11, 1745.

Sir: — While the war continues, I find it will not answer to send for any considerable quantity of books, for that business, as well as others, grows duller daily, and people are unwilling to give the advanced price we are now obliged to put on books, by the excessive charges of insurance, etc. So at present I only send for a few school books, and books of navigation, which they cannot do without.

I sent you, some time since, a bill for fifteen pounds and part of Mr. Hall's bill, ten pounds, which I hope will come to hand and be readily paid. I purpose to send you another soon, and am, sir, your most humble servant,

B. FRANKLIN.

P. S. — Our Library Company sends for about twenty pounds sterling worth of books yearly. Mr. Collinson does us the favour to buy them for us. Perhaps on your speaking to that gentleman, he would take them of you.

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54. TO WILLIAM STRAHAN

December 22, 1745.

SIR: — The above is a copy of what I wrote you, *per* Mesnard, who sailed about ten days ago from this port. This goes *per* Capt. Hargrave, who is soon to sail from Maryland. Enclosed I send you a bill for £15 7*s.* 1*d.*, which I hope will be readily paid. Enclosed is also a letter to Mr. Collinson, containing an order for books for the library,

which, when you deliver, you will have an opportunity of proposing to furnish them. Please to add to the enclosed list the following books for me, viz.: Starkey's Pyrotechny Assorted, an old book; 6 Echard's Gazetteer, 6 Watts' Lyric Poems, 6 Watts' Logic, with Supplement; 1 Watts' Essays; also 5 or 6 lbs. of long-primer fractions, i.e., to use with long primer in arithmetic work. Mr. Hall and all your friends here are well, as I hope this will find you [indistinct]

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55. TO WILLIAM STRAHAN

PHILADELPHIA, May 22, 1746.

SIR: — This is only to enclose a third bill for £15 sterling, the second and first of which went from this port and Annapolis; and to desire you to send me two sets of Popple's maps of North America, one bound, the other in sheets. They are for our Assembly, who also want the statutes at large; but as I hear they are risen to an extravagant price I would have you send me word what they will cost before you send them. We are all well. Mr. Hall has not time to write, the post just going. I am, sir, your humble servant,

B. FRANKLIN.

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56. TO WILLIAM STRAHAN

PHILADELPHIA, September 25, 1746.

SIR: — Your favours of February 11th and May 1st are come to hand. Mesnard arrived safe this morning, and I suppose I shall have the trunks out in a day or two. Our other ships, *Lisle* and *Houston*, not yet come, but daily expected. I am much obliged to you for your ready compli-

ance with my requests. I sent you in the spring a bill on Messrs. Hoare and Arnold for £15, which I hope came to hand and was readily paid as that on Geo. Rigge for £15 7*s.* 1*d.* I now send you the following bills, viz.:

	Sterling		
	£	s.	d.
Jno. Denny's for	3	5	7
Geo. Copper's for	2	8	0
J. Bordley's for	4	3	3
Ra. Page's for	4	15	0
Sarah Gresham's for	4	10	0
Jno. Bond's for	13	17	9
	£32	19	7

I wish the sum had been all in one bill, as the trouble to you would be less; but bills have been scarce lately, and we were glad to get any. I think, however, to send you no more such small ones.

I shall, as you desire, deliver one of Ainsworth's Dictionaries to Mr. Read. You will take the charge of it from my account and add it to his in your book.

Please to send me, *per* next vessel, 6 doz. of Dyche's and as many of Owen's Spelling Books, with a dozen of post horns of different sizes. I shall speedily send you another bill.

My wife joins with me in thanks to you and good Mrs. Strahan and young master, for your kindness to our daughter. She shall make her acknowledgments herself as soon as she is able.

I congratulate you on the defeat of Jacobitism by your glorious Duke,[1] and the restoration of peace and good order within the kingdom. We have just now an account that a

[1] At Culloden. — Ed.

French fleet of thirty sail were lately seen off Cape Sable. They are supposed to be that from Brest. I hope they are followed by one of superior force from England, otherwise a great deal of mischief may be done in North America. Our friends, Messrs. Hall and Read continue well. I am, sir, your most obliged humble servant,

B. FRANKLIN.

P. S. — I am sorry it so happened that Mr. Collinson had bespoke the books. The next catalogue sent to him will be accompanied with a request from the directors that he purchase them of you only.

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57. PREFACE TO POOR RICHARD, 1747 (P. H. S.)

Courteous Reader,

This is the 15th Time I have entertain'd thee with my annual Productions; I hope to thy Profit as well as mine. For besides the astronomical Calculations, and other Things usually contain'd in Almanacks, which have their daily Use indeed while the Year continues, but then become of no Value, I have constantly interspers'd *moral* Sentences, *prudent* Maxims, and *wise* Sayings, many of them containing *much good Sense* in *very few* Words, and therefore apt to leave *strong* and *lasting* Impressions on the Memory of young Persons, whereby they may receive Benefit as long as they live, when both Almanack and Almanack-maker have been long thrown by and forgotten. If I now and then insert a Joke or two, that seem to have little in them, my Apology *is* that such may have their Use, since perhaps for their Sake

light airy Minds peruse the rest, and so are struck by somewhat of more Weight and Moment. The Verses on the Heads of the Months are also generally design'd to have the same Tendency. I need not tell thee that not many of them are of my own Making. If thou hast any Judgment in Poetry, thou wilt easily discern the Workman from the Bungler. I know as well as thee, that I am no *Poet born;* and it is a Trade I never learnt, nor indeed could learn. *If I make Verses, 'tis in Spight — of Nature and my Stars, I write.* Why then should I give my Readers *bad Lines* of my own, when *good Ones* of other People's are so plenty? 'Tis methinks a poor Excuse for the bad Entertainment of Guests, that the Food we set before them, tho' coarse and ordinary, *is of one's own Raising, off one's own Plantation,* &c. when there is Plenty of what is ten times better, to be had in the Market. — On the contrary, I assure ye, my Friends, that I have procur'd the best I could for ye, and *much Good may 't do ye.*

I cannot omit this Opportunity of making honourable Mention of the late deceased Ornament and Head of our Profession, Mr. Jacob Taylor, who for upwards of 40 Years (with some few Intermissions only) supply'd the good People of this and the neighbouring Colonies, with the most compleat Ephemeris and most accurate Calculations that have hitherto appear'd in America. . . . He was an ingenious Mathematician, as well as an expert and skilful Astronomer; and moreover, no mean Philosopher, but what is more than all, He was a PIOUS and an HONEST Man. *Requiescat in pace.*

I am thy poor Friend, to serve thee,

R. SAUNDERS.

58. TO WILLIAM STRAHAN

PHILADELPHIA, Jan. 4, 1746, 7.

SIR; I wrote a line to you some days since, *via* New York, enclosing a bill of £25 sterling; the second in a copy to go by some other vessel from that port; the third you have herein; together with a bill for £60 sterling, which I hope will be duly honoured. My wife wrote to you *per* Mesnard for 6 Nelson's Justice, 6 Dyche's Dictionaries, 12 Cole's English Ditto, 6 Female Fables, 6 Croxall's Ditto, and Mrs. Rowe's works complete. If not sent before, please add them to the within invoice, and send the whole *per* first ship; and also Lenery on Foods, and Dr. Moffat on Health. Please to deliver the enclosed procuration to Mr. Acworth with the bill. The books you sent *per* Mesnard turned out all right, and in good order, except that the Prayer-books had all wrong psalms, the old version. I do not know if they will ever sell. The paper should not have been cut at the edges, being to be bound in account books. Our friends Hall and Read continue well. My wife joins me in best respects to Mrs. Strahan and yourself. She will write *per* Seymour, as will Mr. Hall. The Life of Du Renty, charged at 6 s. *per* dozen, has *Price, stitched, fourpence*, under the title-page. Is there not a mistake in the charge?

I am, sir, your obliged humble servant

B. FRANKLIN.

Your government sent no fleet to protect us against the French under D'Anville. But they have been defeated by the hand of God.

59. TO PETER COLLINSON[1]

SIR, PHILADELPHIA, March 28, 1747.

Your kind present of an electric tube, with directions for using it, has put several of us on making electrical experiments, in which we have observed some particular phænomena, that we look upon to be new. I shall therefore communicate them to you in my next, though possibly they may not be new to you, as among the numbers daily employed in those experiments on your side the water, 'tis probable some one or other has hit on the same observations. For my own part, I never was before engaged in any study that so totally engrossed my attention and my time as this has lately done; for what with making experiments when I can be alone, and repeating them to my Friends and Acquaintance, who, from the novelty of the thing, come continually in crouds to see them, I have, during some months past, had little leisure for any thing else.

I am, &c.

B. FRANKLIN.

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60. TO PETER COLLINSON

SIR, [PHILADELPHIA,] July 11, 1747.

In my last I informed you that, in pursuing our electrical enquiries, we had observed some particular phænomena, which we looked upon to be new, and of which I promised

[1] I have printed this letter and the subsequent letters dated July 11, 1747, September 1, 1747, from the "Experiments and Observations" (1769), pp. 1-21. — ED.

to give you some account, though I apprehended they might possibly not be new to you, as so many hands are daily employed in electrical experiments on your side the water, some or other of which would probably hit on the same observations.

The first is the wonderful effect of pointed bodies, both in *drawing off* and *throwing off* the electrical fire. For example,

Place an iron shot of three or four inches diameter on the mouth of a clean dry glass bottle. By a fine silken thread from the cieling, right over the mouth of the bottle, suspend a small cork ball, about the bigness of a marble; the thread of such a length, as that the cork ball may rest against the side of the shot. Electrify the shot, and the ball will be repelled to the distance of four or five inches, more or less, according to the quantity of Electricity. When in this state, if you present to the shot the point of a long slender sharp bodkin, at six or eight inches distance, the repellency is instantly destroy'd, and the cork flies to the shot. A blunt body must be brought within an inch, and draw a spark, to produce the same effect. To prove that the electrical fire is *drawn off* by the point, if you take the blade of the bodkin out of the wooden handle, and fix it in a stick of sealing-wax, and then present it at the distance aforesaid, or if you bring it very near, no such effect follows; but sliding one finger along the wax till you touch the blade, and the ball flies to the shot immediately. If you present the point in the dark, you will see, sometimes at a foot distance, and more, a light gather upon it, like that of a fire-fly, or glow-worm; the less sharp the point, the nearer you must bring it to observe the light; and, at whatever distance you see the light, you may

draw off the electrical fire, and destroy the repellency. If a cork ball so suspended be repelled by the tube, and a point be presented quick to it, tho' at a considerable distance, 'tis surprizing to see how suddenly it flies back to the tube. Points of wood will do near as well as those of iron, provided the wood is not dry; for perfectly dry wood will no more conduct Electricity than sealing-wax.

To shew that points will *throw off*[1] as well as *draw off* the electrical fire; lay a long sharp needle upon the shot, and you cannot electrise the shot so as to make it repel the rock ball.[2] Or fix a needle to the end of a suspended gun-barrel, or iron rod, so as to point beyond it like a little bayonet; and while it remains there, the gun-barrel, or rod, cannot by applying the tube to the other end be electrised so as to give a spark, the fire continually running out silently at the point. In the dark you may see it make the same appearance as it does in the case before mentioned.

The repellency between the cork ball and the shot is likewise destroyed. 1, by sifting fine sand on it; this does it gradually. 2, by breathing on it. 3, by making a smoke about it from burning wood.[3] 4, by candle-light, even

[1] This power of points to *throw off* the electrical fire, was first communicated to me by my ingenious friend, Mr. *Thomas Hopkinson*, since deceased, whose virtue and integrity, in every station of life, public and private, will ever make his Memory dear to those who knew him, and knew how to value him.

[2] This was Mr. *Hopkinson's* experiment, made with an expectation of drawing a more sharp and powerful spark from the point, as from a kind of focus, and he was surprized to find little or none.

[3] We suppose every particle of sand, moisture, or smoke, being first attracted and then repelled, carries off with it a portion of the electrical fire; but that the same still subsists in those particles, till they communicate it to something else, and that it is never really destroyed. So, when water is thrown on common fire, we do not imagine the element is thereby destroyed

though the candle is at a foot distance: these do it suddenly. The light of a bright coal from a wood fire; and the light of red-hot iron do it likewise; but not at so great a distance. Smoke from dry rosin dropt on hot iron, does not destroy the repellency; but is attracted by both shot and cork ball, forming proportionable atmospheres round them, making them look beautifully, somewhat like some of the figures in *Burnet's* or *Whiston's Theory of the Earth.*

N. B. This experiment should be made in a closet, where the air is very still, or it will be apt to fail.

The light of the sun thrown strongly on both cork and shot by a looking-glass for a long time together, does not impair the repellency in the least. This difference between fire-light and sun-light is another thing that seems new and extraordinary to us.[1]

We had for some time been of opinion, that the electrical fire was not created by friction, but collected, being really an element diffus'd among, and attracted by other matter, particularly by water and metals. We had even discovered and demonstrated its afflux to the electrical sphere, as well as its efflux, by means of little light windmill-wheels made of stiff paper vanes, fixed obliquely and turning freely on fine wire axes; also by little wheels of the same matter, but formed like water-wheels. Of the disposition and application of which wheels, and the various phænomena resulting,

or annihilated, but only dispersed, each particle of water carrying off in vapour its portion of the fire, which it had attracted and attached to itself.

[1] This different Effect probably did not arise from any difference in the light, but rather from the particles separated from the candle, being first attracted and then repelled, carrying off the electric matter with them; and from the rarefying the air, between the glowing coal or red-hot iron, and the electrised shot, through which rarified air the electric fluid could more readily pass.

I could, if I had time, fill you a sheet.[1] The impossibility of electrising one's self (though standing on wax) by rubbing the tube, and drawing the fire from it; and the manner of doing it, by passing the tube near a person or thing standing on the floor, &c., had also occurred to us some months before Mr. *Watson's* ingenious *Sequel* came to hand, and these were some of the new things I intended to have communicated to you. But now I need only mention some particulars not hinted in that piece, with our reasonings thereupon; though perhaps the latter might well enough be spared.

1. A person standing on wax, and rubbing the tube, and another person on wax drawing the fire, they will both of them, (provided they do not stand so as to touch one another) appear to be electrised, to a person standing on the floor; that is, he will perceive a spark on approaching each of them with his knuckle.

2. But, if the persons on wax touch one another during the exciting of the tube, neither of them will appear to be electrised.

3. If they touch one another after exciting the tube, and drawing the fire as aforesaid, there will be a stronger spark between them, than was between either of them and the person on the floor.

4. After such strong spark, neither of them discover any electricity.

These appearances we attempt to account for thus: We

[1] These experiments with the wheels were made and communicated to me by my worthy and ingenious friend, Mr. *Philip Syng;* but we afterwards discovered, that the motion of those wheels was not owing to any afflux or efflux of the electric fluid, but to various circumstances of attraction and repulsion. 1750.

suppose, as aforesaid, that electrical fire is a common element, of which every one of the three persons above mentioned has his equal share, before any operation is begun with the tube. *A*, who stands on wax and rubs the tube, collects the electrical fire from himself into the glass; and his communication with the common stock being cut off by the wax, his body is not again immediately supply'd. *B*, (who stands on wax likewise) passing his knuckle along near the tube, receives the fire which was collected by the glass from *A;* and his communication with the common stock being likewise cut off, he retains the additional quantity received. To *C*, standing on the floor, both appear to be electrised: for he having only the middle quantity of electrical fire, receives a spark upon approaching *B*, who has an over quantity; but gives one to *A*, who has an under quantity. If *A* and *B* approach to touch each other, the spark is stronger, because the difference between them is greater: After such touch there is no spark between either of them and *C*, because the electrical fire in all is reduced to the original equality. If they touch while electrising, the equality is never destroy'd, the fire only circulating. Hence have arisen some new terms among us: we say, *B*, (and bodies like circumstanced) is electrised *positively; A*, *negatively*. Or rather, *B* is electrised *plus; A*, *minus*. And we daily in our experiments electrise bodies *plus or minus*, as we think proper. To electrise *plus* or *minus*, no more needs to be known than this, that the parts of the tube or sphere that are rubbed, do, in the instant of the friction, attract the electrical fire, and therefore take it from the thing rubbing: the same parts immediately, as the friction upon them ceases, are disposed to give the fire they have received, to any body that

has less. Thus you may circulate it, as Mr. *Watson* has shewn; you may also accumulate or subtract it upon, or from any body, as you connect that body with the rubber or with the receiver, the communication with the common stock being cut off. We think that ingenious gentleman was deceived when he imagined (in his *Sequel*) that the electrical fire came down the wire from the cieling to the gun-barrel, thence to the sphere, and so electrised the machine and the man turning the wheel, &c. We suppose it was *driven off*, and not brought on through that wire; and that the machine and man, &c., were electrised *minus*, *i.e.* had less electrical fire in them than things in common.

As the vessel is just upon sailing, I cannot give you so large an account of *American* electricity as I intended: I shall only mention a few particulars more. We find granulated lead better to fill the phial with, than water, being easily warmed, and keeping warm and dry in damp air. We fire spirits with the wire of the phial. We light candles, just blown out, by drawing a spark among the smoke, between the wire and snuffers. We represent lightning, by passing the wire in the dark, over a China plate, that has gilt flowers, or applying it to gilt frames of looking-glasses, &c. We electrise a person twenty or more times running, with a touch of the finger on the wire, thus: He stands on wax. Give him the electrised bottle in his hand. Touch the wire with your finger, and then touch his hand or face; there are sparks every time.[1] We increase the force of the electrical

[1] By taking a spark from the wire, the electricity within the bottle is diminished; the outside of the bottle then draws some from the person holding it, and leaves him in the negative state. Then when his hand or face is touch'd, an equal quantity is restored to him from the person touching. — F.

kiss vastly, thus: Let *A* and *B* stand on wax; or *A* on wax, and *B* on the floor; give one of them the electrised phial in hand; let the other take hold of the wire; there will be a small spark; but when their lips approach, they will be struck and shock'd. The same if another gentleman and lady, *C* and *D*, standing also on wax, and joining hands with *A* and *B*, salute or shake hands. We suspend by fine silk thread a counterfeit spider, made of a small piece of burnt cork, with legs of linnen thread, and a grain or two of lead stuck in him, to give him more weight. Upon the table, over which he hangs, we stick a wire upright, as high as the phial and wire, two or three inches from the spider: then we animate him, by setting the electrified phial at the same distance on the other side of him; he will immediately fly to the wire of the phial, bend his legs in touching it; then spring off, and fly to the wire on the table; thence again to the wire of the phial, playing with his legs against both, in a very entertaining manner, appearing perfectly alive to persons unacquainted. He will continue this motion an hour or more in dry weather. We electrify, upon wax in the dark, a book that has a double line of gold round upon the covers, and then apply a knuckle to the gilding; the fire appears everywhere upon the gold like a flash of lightning: not upon the leather, nor, if you touch the leather instead of the gold. We rub our tubes with buckskin, and observe always to keep the same side to the tube, and never to sully the tube by handling; thus they work readily and easily, without the least fatigue, especially if kept in tight pasteboard cases, lined with flannel, and sitting close to the tube.[1] This I

[1] Our tubes are made here of green glass, 27 or 30 inches long, as big as can be grasped. — F.

mention, because the *European* papers on Electricity, frequently speak of rubbing the tube, as a fatiguing exercise. Our spheres are fixed on iron axes, which pass through them. At one end of the axis there is a small handle, with which you turn the sphere like a common grindstone. This we find very commodious, as the machine takes up but little room, is portable, and may be enclosed in a tight box, when not in use. 'Tis true, the sphere does not turn so swift as when the great wheel is used: but swiftness we think of little importance, since a few turns will charge the phial, &c., sufficiently.[1]

I am, &c.

B. FRANKLIN.

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61. TO JARED ELIOT[2] (Y.)

PHILAD^A, July 16, 1747.

DEAR SIR,

I receiv'd your favour of the 4th instant. I ought before this Time to have acknowledg'd the Receipt of the Book, which came very Safe, and in good Order, to hand. We have many Oil-Mills in this Province, it being a great Country for Flax. Linseed Oil may now be bought for 3/ per Gallon; sometimes for 2/6; but at New York, I have been told, it generally holds up at about 8/. Of this you can easily be satisfy'd, it being your neighbour Government.

[1] This simple, easily-made machine was a contrivance of Mr. *Syng's*. — F.

[2] The original letter is in the Library of Yale University. Jared Eliot (1685–1763) was a grandson of "Apostle" Eliot; he was a graduate of Yale College, and was Rector of Killingworth, Connecticut. He was the teacher of Samuel Johnson, first president of King's College, and he was a Fellow of the Royal Society. — ED.

In your last, you enquir'd about the kind of Land from which our Hemp is rais'd. I am told it must be very rich Land. Sometimes they use drain'd Swamps and banked Meadows; but the greatest part of our Hemp is brought from Conestoga, which is a large and very rich Tract of Land *** miles from this city on the Banks of the Susquehanah, a large fresh-water river. It is brought down in waggons.

If you should send any of your Steel Saws here for sale, I should not be wanting where my Recommendation might be of service.

We have had as wet a Summer as has been known here these thirty Years, so that it was with Difficulty our People got in their Harvest. In some Parts of the Country a great deal of Hay has been lost, and some Corn mildew'd; but in general the Harvest has been very great. The two preceding Summers (particularly the last) were excessively dry. I think with you, it might be of advantage to know what the Seasons are in the several Parts of the Country. One's Curiosity in some Philosophical Points might also be gratified by it.

We have frequently, along this North American Coast, Storms from the northeast, which blow violently sometimes 3 or 4 Days. Of these I have had a very singular Opinion some years, viz. that, tho' the Course of the Wind is from N.E. to S.W., yet the Course of the Storm is from S.W. to N.E.; that is, the air is in violent Motion in Virginia before it moves in Connecticut, and in Connecticut before it moves at Cape Sable, &c. My Reasons for this Opinion, (if the like have not occurr'd to you,) I will give in my next.

I thank you for the curious Facts you have communicated

to me relating to Springs. I think with you, that most Springs arise from Rains, Dews, or Ponds, on higher Grounds; yet possibly some, that break out near the Tops of high Hollow Mountains, may proceed from the Abyss, or from Water in the Caverns of the Earth, rarefied by its internal Heat, and raised in Vapour, till the cold Region near the Tops of such Mountains condenses the Vapour into Water again, which comes forth in Springs, and runs down on the outside of the Mountains, as it ascended on the inside. There it is said to be a large Spring near the Top of Teneriffe; and that Mountain was formerly a Volcano, consequently hollow within. Such Springs, if such there be, may properly be called Springs of *distill'd* Water.

Now I mention Mountains, it occurs to tell you, that the great Apalachian Mountains, which run from York River, back of these colonies, to the Bay of Mexico, show in many Places, near the highest Parts of them, strata of Sea Shells; in some Places the Marks of them are in the solid Rocks. It is certainly the *Wreck* of a World we live on! We have Specimens of these Sea Shell Rocks, broken off near the Tops of these Mountains, brought and deposited in our Library as Curiosities. If you have not seen the like, I'll send you a Piece. Farther, about Mountains (for Ideas will string themselves like Ropes of Onions); when I was once riding in your Country, Mr. Walker show'd me at a distance the Bluff Side or End of a Mountain, which appeared striped from Top to Bottom, and told me the Stone or Rock of that Mountain was divided by Nature into Pillars; of this I should be glad to have a particular Account from you. I think I was somewhere near New Haven when I saw it.

You made some Mistake when you intended to favour

me with some of the new valuable Grass Seed (I think you called it Herd-seed), for what you gave me is grown up, and proves mere Timothy; so I suppose you took it out of a wrong paper or Parcel.

I wish your new Law may have the good Effect expected from it, in extricating your Government from the heavy Debt this War has obliged them to contract. I am too little acquainted with your particular Circumstances to judge of the Prudence of such a Law for your Colony with any Degree of Exactness. But to a Friend one may hazard one's Notions, right or wrong. And, as you are pleas'd to desire my Thoughts, you shall have 'em and welcome. I wish they were better.

First, I imagine that the Five Per Cent Duty on Goods imported from your Neighbouring Governments, tho' paid at first Hand by the Importer, will not upon the whole come out of his Pocket, but be paid in Fact by the Consumer; for the Importer will be sure to sell his Goods as much dearer as to reimburse himself; so that it is only another Mode of Taxing your own People, tho' perhaps meant to raise Money on your Neighbours. Yet, if you can make some of the Goods, heretofore imported, among yourselves, the advanc'd price of five per cent may encourage your own Manufacture, and in time make the Importation of such Articles unnecessary, which will be an Advantage.

Secondly, I imagine the Law will be difficult to execute, and require many Officers to prevent Smuggling in so extended a Coast as yours; and the Charge considerable; and, if Smuggling is not prevented, the fair Trader will be undersold and ruined. If the Officers are many and busy,

there will arise numbers of vexatious Lawsuits, and Dissensions among your People. *Quære*, whether the Advantages will overballance.

Thirdly, if there is any Part of your Produce that you can well spare, and would desire to have taken off by your Neighbours in Exchange for something you more want, perhaps they, taking offence at your selfish Law, may in Return lay such heavy Duties or Discouragements on that article, as to leave it a Drug on your Hands. As to the duty on transporting Lumber (unless in Connecticut Bottoms to the West Indies), I suppose the Design is to raise the Price of such Lumber on your Neighbours, and throw that advanced price into your Treasury. But may not your Neighbours supply themselves elsewhere? Or, if Numbers of your People have Lumber to dispose of, and want Goods from, or have Debts to pay to your Neighbours, will they not (unless you employ Numbers of Officers to watch all your Creeks and Landings) run their Lumber, and so defeat the Law? Or, if the Law is strictly executed, and the Duty discourage the Transportation to your Neighbours, will not all your people, that want to dispose of Lumber, be laid at the Mercy of those few Merchants that send it to the West Indies, who will buy it at their own Price, and make such Pay for it as they think proper?

If I had seen the Law, and heard the Reasons that are given for making it, I might have judged and talked of it more to the purpose. At present I shoot my Bolt pretty much in the Dark; but you can excuse and make proper Allowances.

My best Respects to good Mrs. Eliot and your sons; and, if it falls in your way, my Service to the kind, hos-

pitable People near the River, whose name I am sorry I've forgot.

I am, dear Sir, with the utmost Regard,
Your obliged humb servt,

B. FRANKLIN.

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62. TO WILLIAM STRAHAN[1] (P. C.)

Philad, July 29, 1747.

SIR: Your Favours of March 18. and April 1. are come to hand, with all the Books, etc., mention'd in the Invoice in good Order, and am much oblig'd to you for your ready compliance with all my Requests.

I believe I could have got Subscriptions for 20 Sets of the Universal History, and perhaps more; but unluckily a Ship from Ireland has, since the Receipt of your Letter, brought in 20 Setts compleat, and they are offer'd at a lower Rate than the English Edition can be afforded at, even if I paid but 4/ per Vol. I do what I can to lessen the Credit of that piratical Edition, and talk much of the Improvements made in this; but that being to be had intire immediately, and this not till after many Months, weighs a good deal with some; and others object, that 'tis to be apprehended, the London Booksellers will either curtail the Folio Edition greatly to save Money, or put the Subscribers at last to the Expence of a greater Number of Volumes than 20; seeing the Volumes are much less than those of the Irish Edition, the 3 first of the one, containing but little more than the first of the other. If they think fit to venture a parcel here,

[1] From the original in the collection of Mr. John Boyd Thacher, of Albany.

Hall will do his best to dispose of them, and I will assist him what I can. They may send a Parcel also to Mr. Parker, Printer of New York, a very honest punctual Man.

I am glad all the Bills I sent you have been paid or accepted. You may expect more in a short time; and after the next Parcel of Books are paid for, you will chiefly have to deal with Mr. Hall, into whose Hands I have agreed to put the Shop, etc.

With all our best Respects to you and yours, heartily wishing you Health and Happiness, I conclude your obliged humble Servt,

per Mesnard. B. FRANKLIN.

63. TO JOHN FRANKLIN[1] (A. P. S.)

DEAR BROTHER Augt 6. 1747.

I am glad to hear that Mr Whitefield is safe arriv'd, and recovered his Health: he is a good Man and I love him:—

Mr Douse has wrote to me per this Post, at Mrs Steele's Request desiring an Explanation from me with regard to my Dissatisfaction with that Lady. I have wrote him in answer that I think a Misunderstanding between Persons at such a Distance, and never like to be further acquainted, can be of no kind of Consequence, & therefore had better be dropt and forgot than committed to Paper; but that however, if Mrs Steele after Recollection still desires it, I will be very particular with her in a Letter for that purpose to herself. — If such a Letter should be written, I will send you a Copy of it, for your & Sister's Satisfaction; but think 'twill be best that you do [not] show it, or any of the Letters in

[1] Rough Draft in A. P. S.

which I have mention'd her nor speak of them, but keep quite unconcern'd for perhaps there may be a little Squabble. —

With Love to Sister, &c. &c. I am, Sir

Your affectionate Brother

B. FRANKLIN.

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64. TO CADWALLADER COLDEN [1] (L. C.)

Philadelphia, 1747.

ACCORDING to my promise, I send you *in writing* my observations on your book; you will be the better able to consider them; which I desire you to do at your leisure, and to set me right where I am wrong.

I stumble at the threshold of the building, and therefore have not read further. The author's *vis inertiæ essential to matter*, upon which the whole work is founded, I have not been able to comprehend. And I do not think he demonstrates at all clearly (at least to me he does not), that there is really *such a property in matter*.

He says, No. 2, "Let a given body or mass of matter be called *a*, and let any given celerity be called *c*. That *celerity* doubled, tripled, &c., or halved, thirded, &c., will be $2c$, $3c$, &c., or $\frac{1}{2}c$, $\frac{1}{3}c$, &c., respectively. Also the *body* doubled, tripled, or halved, thirded, will be $2a$, $3a$, or $\frac{1}{2}a$, $\frac{1}{3}a$, respec-

[1] This letter has hitherto been supposed to have been addressed to Thomas Hopkinson. There are two transcripts of it in the Library of Congress. I have printed from Benjamin Vaughan's copy. The book referred to was "An Inquiry into the Nature of the Human Soul, wherein its Immortality is evinced," etc., by Andrew Baxter. The thesis which the author attempts to maintain rests upon the belief that nature is essentially inert and that all changes in it argue the action of an immaterial principle and consequently of the superintendence of a divine power. — ED.

tively." Thus far is clear. But he adds, "Now to move the body *a*, with the celerity *c*, requires a certain force to be impressed upon it; and to move it with a celerity as *2c*, requires *twice that force* to be impressed upon it, &c." Here I suspect some mistake creeps in, by the author's not distinguishing between a great force applied at once, and a small one continually applied, to a mass of matter, in order to move it. I think it is generally allowed by the philosophers, and, for aught we know, is certainly true, that there is no mass of matter, how great soever, but may be moved by any force how small soever, (taking friction out of the question,) and this small force, continued, will in time bring the mass to move with any velocity whatsoever. Our author himself seems to allow this towards the end of the same No. 2, when he is subdividing his celerities and forces; for as in continuing the division to eternity by his method of $\frac{1}{2}c$, $\frac{1}{3}c$, $\frac{1}{4}c$, $\frac{1}{5}c$, &c. you can never come to a fraction of velocity that is equal to $0c$, or no celerity at all; so, dividing the force in the same manner, you can never come to a fraction of force that will not produce an equal fraction of celerity.

Where then is the mighty *vis inertiæ*, and what is its strength, when the greatest assignable mass of matter will give way to, or be moved by, the *least* assignable force? Suppose two globes equal to the sun and to one another, exactly equipoised in Jove's balance; suppose no friction in the centre of motion, in the beam or elsewhere; if a musketo then were to light on one of them, would he not give motion to them both, causing one to descend and the other to rise? If it is objected, that the force of gravity helps one globe to descend, I answer, the same force opposes the other's rising. Here is an equality that leaves the whole

motion to be produced by the musketo, without whom those globes would not be moved at all. What then does *vis inertiæ* do in this case? and what other effect could we expect *if there were no such thing?* Surely, if it were any thing more than a phantom, there might be enough of it in such *vast* bodies to annihilate, by its opposition to motion, so trifling a force!

Our author would have reasoned more clearly, I think, if, as he has used the letter *a* for a certain quantity of matter, and *c* for a certain quantity of celerity, he had employed one letter more, and put *f*, perhaps, for a certain quantity of force. This let us suppose to be done; and then, as it is a maxim that the force of bodies in motion is equal to the quantity of matter multiplied by the celerity, (or $f = c \times a$); and as the force received by and subsisting in matter, when it is put in motion, can never exceed the force given; so, if *f* moves *a* with *c*, there must needs be required *2f* to move *a* with *2c*; for *a* moving with *2c* would have a force equal to *2f*, which it could not receive from *1f*; and this, not because there is such a thing as *vis inertiæ*, for the case would be the same *if that had no existence;* but because nothing can give more than it has. And now again, if a thing *can* give what it has, if *1f* can to *1a* give *1c*, which is the same thing as giving it *1f*, (that is, if force applied to matter at rest, can put it in motion, and give it *equal* force,) where then is *vis inertiæ?* If it existed at all in matter, should we not find the quantity of its resistance subtracted from the force given?

In No. 4, our author goes on and says, "The body *a* requires a certain force to be impressed on it to be moved with a celerity as *c*, or such a force is necessary; and therefore it makes a certain resistance, &c.; a body as *2a* requires

twice that force to be moved with the *same celerity*, or it makes twice that resistance; and so on." This I think is not true; but that the body $2a$, moved by the force $1f$, (though the eye may judge otherwise of it) does really move with the same celerity as it did when impelled by the same force; for $2a$ is compounded of $1a + 1a$; and if each of the $1a$'s, or each part of the compound, were made to move with $1c$ (as they might be by $2f$), then the whole would move with $2c$, and not with $1c$, as our author supposes. But $1f$ applied to $2a$ makes each a move with $\frac{1}{2}c$; and so the whole moves with $1c$; exactly the same as $1a$ was made to do by $1f$ before. What is equal celerity but a *measuring the same space by moving bodies in the same time?* Now if $1a$, impelled by $1f$, measures one hundred yards in a minute; and in $2a$, impelled by $1f$, each a measures fifty yards in a minute, which added make one hundred; are not the celerities, as the forces, equal? And, since force and celerity in the same quantity of matter are always in *proportion* to each other, why should we, when the quantity of matter is doubled, allow the force to continue unimpaired, and yet suppose one half of the celerity to be lost? I wonder the more at our author's mistake in this point, since in the same number I find him observing; "We may easily conceive that a body, as $3a$, $4a$, &c., would make three or four bodies equal to once a, each of which would require once the first force to be moved with the celerity c." If then, in $3a$, each a requires once the first force f, to be moved with the celerity c, would not each move with the force f, and celerity c? and consequently the whole be $3a$ moving with $3f$ and $3c$? After so distinct an observation, how could he miss of the consequence, and imagine that $1c$ and $3c$ were the same? Thus, as our

author's abatement of celerity in the case of *2a* moved by *1f* is imaginary, so must be his additional resistance. And here again, I am at a loss to discover any effect of the *vis inertiæ*.

In No. 6, he tells us, "that all this is likewise certain when taken the contrary way, viz. *from motion to rest;* for the body *a*, moving with a certain velocity, as *c*, requires a certain degree of force or resistance to stop that motion," &c. &c.; that is, in other words, equal force is necessary to destroy force. It may be so. But how does that discover a *vis inertiæ?* Would not the effect be the same, *if there were no such thing?* A force *1f* strikes a body *1a*, and moves it with the celerity *1c*, that is, with the force *1f*; it requires, even according to our author, only an opposing *1f* to stop it. But ought it not (if there were a *vis inertiæ*) to have not only the force *1f*, but an additional force equal to the force of *vis inertiæ*, that *obstinate power by which a body endeavours with* all its might *to continue in its present state, whether of motion or rest?* I say, ought there not to be an opposing force equal to the sum of these? The truth, however, is, that there is no body, how large soever, moving with any velocity, how great soever, but may be stopped by an opposing force, how small soever, continually applied. At least, all our modern philosophers agree to tell us so.

Let me turn the thing in what light I please, I cannot discover the *vis inertiæ*, nor any effect of it. It is allowed by all, that a body *1a*, moving with a velocity *1c*, and a force *1f*, *striking another* body *1a* at rest, they will afterwards *move on together*, each with $\frac{1}{2}c$ and $\frac{1}{2}f$; which, as I said before, is equal in the whole to *1c* and *1f*. If *vis inertiæ*, as in this case, neither abates the force nor the velocity of bodies, what does it, or how does it discover itself?

I imagine I may venture to conclude my observations on this piece, almost in the words of the author; that, if the doctrines of the immateriality of the soul and the existence of God, and of divine providence, are demonstrable from no plainer principles, the *deist* (that is, *theist*) has a desperate cause in hand. I oppose *my theist* to his atheist, because I think they are diametrically opposite; and not near of kin, as Mr. Whitefield seems to suppose, where (in his Journal) he tells us, "*M. B. was a deist, I had almost said an atheist;*" that is, *chalk*, I had almost said *charcoal*.

The din of the Market[1] increases upon me; and that, with frequent interruptions, has, I find, made me say some things twice over; and, I suppose, forget some others I intended to say. It has, however, one good effect, as it obliges me to come to the relief of your patience with

Your humble servant,

B. FRANKLIN.

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65. TO CADWALLADER COLDEN

Philadelphia, August 6, 1747.

SIR,

The observations I sent you on Baxter's book were wrote on a sheet or two of paper in folio. He builds his whole argument on the *vis inertiæ* of matter. I boldly denied the being of such a property, and endeavoured to demonstrate the contrary. If I succeeded, all his edifice falls of course, unless some other way supported. I desired your sentiments of my argument. You left the book for me at New

[1] Vaughan explains this as Hungerford Market, near Craven Street, London, where Franklin lived; but the letter was written in Philadelphia and obviously refers to the market in that city. — ED.

York, with a few lines containing a short censure upon the author, and that your time had been much taken up in town with business, but you were now about to retire into the country, where you should have leisure to peruse my papers; since which I have heard nothing from you relating to them. I hope you will easily find them, because I have lost my rough draft; but do not give yourself much trouble about them; for if they are lost, it is really no great matter.

I am glad to hear, that some gentlemen with you are inclined to go on with electrical experiments. I am satisfied we have workmen here, who can make the apparatus as well to the full as that from London; and they will do it reasonably. By the next post, I will send you their computation of the expense. If you shall conclude to have it done here, I will oversee the work, and take care that every part be done to perfection, as far as the nature of the thing admits.

Instead of the remainder of my rough minutes on electricity, (which are indeed too rough for your view,) I send you enclosed copies of two letters I lately wrote to Mr. Collinson on that subject. When you have perused them, please to leave them with Mr. Nichols, whom I shall desire to forward them per next post to a friend in Connecticut.

I am glad your Philosophical Treatise meets with so good reception in England. Mr. Collinson writes the same things to Mr. Logan; and Mr. Rose, of Virginia, writes me, that he had received accounts from his correspondents to the same purpose. I perceive by the papers, that they have also lately reprinted, in London, your "History of the Five Nations" in octavo. If it come to your hands, I should be glad to have a sight of it.

Mr. Logan, on a second reading of your piece on Fluxions

lately, is satisfied, that some of the faults he formerly objected to it were his own, and owing to his too little attention at that time. He desires me to tell you so, and that he asks your pardon. Upon what Mr. Collinson wrote, he again undertook to read and consider your Philosophical Treatise.[1] I have not seen him since, but shall soon, and will send you his sentiments. I am, Sir,

With great respect,

Your most humble servant,

B. FRANKLIN.

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66. TO PETER COLLINSON[2] (P. C.)

Philad^{a}, Augt 14, 1747.

SIR

I have lately written two long Letters to you on the Subject of Electricity, one by the Governor's Vessel, the other per Mesnard. On some further Experiments since I have observ'd a Phenomenon or two, that I cannot at present account for on the Principle laid down in those Letters, and am therefore become a little diffident of my Hypothesis,

[1] The title of this treatise, as originally printed, was as follows; "*Explication of the first Causes of Action in Matter; and of the Cause of Gravitation. London*, 1746." A second edition enlarged was published five years afterwards with a different title, namely; "*The Principles of Action in Matter, the Gravitation of Bodies and the Motion of the Planets explained from those Principles. By Cadwallader Colden, Esquire. London. Printed for Dodsley*, 1751." The book was dedicated to the Earl of Macclesfield, then President of the Royal Society. Appended is a chapter entitled, "An Introduction to the Doctrine of Fluxions, or the Arithmetic of Infinities; in order to assist the Imagination in forming Conceptions of the Principles on which that Doctrine is founded." The volume contains eight chapters, besides the one on Fluxions, is printed in quarto, and extends to two hundred and fifteen pages. — S.

[2] From the original in the collection of Mr. J. Pierpont Morgan.

and asham'd that I have express'd myself in so positive a manner. In going on with these Experiments how many pretty Systems do we build which we soon find ourselves oblig'd to destroy! If there is no other Use discover'd of Electricity this however is something considerable, that it may *help to make a vain man humble.*

I must now request that you would not Expose those Letters; or if you communicate them to any Friends you would at least conceal my Name. I have not Time to add but that I am, Sir,

Your obliged and most humᵉ Servᵗ

B. FRANKLIN.

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67. TO PETER COLLINSON[1]

SIR, [Philadelphia,] Sept. 1, 1747.

The necessary trouble of copying long letters, which perhaps, when they come to your hands, may contain nothing new, or worth your reading, (so quick is the progress made with you in Electricity,) half discourages me from writing any more on that subject. Yet I cannot forbear adding a few observations on M. *Muschenbroek's* wonderful bottle.

1. The non-electric contain'd in the bottle differs when electrised from a non-electric electrised out of the bottle, in this: that the electrical fire of the latter is accumulated *on its surface*, and forms an electrical atmosphere round it of considerable extent; but the electrical fire is crowded *into the substance* of the former, the glass confining it.[2]

[1] From "Experiments and Observations on Electricity." London: 1769, p. 12.

[2] See this opinion rectified in § 16 and 17 [of letter dated April 27, 1749]. The fire in the bottle was found by subsequent experiments not to be contained in the non-electric, but *in the glass.* 1748.

2. At the same time that the wire and the top of the bottle, &c. is electrised *positively* or *plus*, the bottom of the bottle is electrised *negatively* or *minus*, in exact proportion; i.e., whatever quantity of electrical fire is thrown in at the top, an equal quantity goes out of the bottom.[1] To understand this, suppose the common quantity of electricity in each part of the bottle, before the operation begins, is equal to 20; and at every stroke of the tube, suppose a quantity equal to 1 is thrown in; then, after the first stroke, the quantity contained in the wire and upper part of the bottle will be 21, in the bottom 19; after the second, the upper part will have 22, the lower 18, and so on, till, after 20 strokes, the upper part will have a quantity of electrical fire equal to 40, the lower part none; and then the operation ends: for no more can be thrown into the upper part, when no more can be driven out of the lower part. If you attempt to throw more in, it is spued back through the wire, or flies out in loud cracks through the sides of the bottle.

3. The equilibrium cannot be restored in the bottle by *inward* communication or contact of the parts; but it must be done by a communication form'd *without* the bottle, between the top and bottom, by some non-electric, touching or approaching both at the same time; in which case it is restored with a violence and quickness inexpressible; or touching each alternately, in which case the equilibrium is restored by degrees.

4. As no more electrical fire can be thrown into the top of the bottle, when all is driven out of the bottom, so, in a bottle not yet electrised, none can be thrown into the top,

[1] What is said here, and after, of the *top* and *bottom* of the bottle, is true of the *inside* and *outside* surfaces, and should have been so expressed. — F.

when none *can* get out at the bottom; which happens either when the bottom is too thick, or when the bottle is placed on an electric *per se*. Again, when the bottle is electrised, but little of the electrical fire can be *drawn out* from the top, by touching the wire, unless an equal quantity can at the same time *get in* at the bottom.[1] Thus, place an electrised bottle on clean glass or dry wax, and you will not, by touching the wire, get out the fire from the top. Place it on a non-electric, and touch the wire, you will get it out in a short time; but soonest when you form a direct communication as above.

So wonderfully are these two states of electricity, the *plus* and *minus*, combined and balanced in this miraculous bottle! situated and related to each other in a manner that I can by no means comprehend! If it were possible that a bottle should in one part contain a quantity of air strongly comprest, and in another part a perfect vacuum, we know the equilibrium would be instantly restored *within*. But here we have a bottle containing at the same time a *plenum* of electrical fire, and a *vacuum* of the same fire; and yet the equilibrium cannot be restored between them but by a communication *without!* though the *plenum* presses violently to expand, and the hungry vacuum seems to attract as violently in order to be filled.

5. The shock to the nerves (or convulsion rather) is occasioned by the sudden passing of the fire through the body in its way from the top to the bottom of the bottle. The fire takes the shortest course, as Mr. Watson justly observes. But it does not appear from experiment, that, in order for a person to be shocked, a communication with the

[1] See the preceding note, relating to *top* and *bottom*. — F.

floor is necessary; for he that holds the bottle with one hand, and touches the wire with the other, will be shock'd as much, though his shoes be dry, or even standing on wax, as otherwise. And, on the touch of the wire (or of the gun-barrel, which is the same thing), the fire does not proceed from the touching finger to the wire, as is supposed, but from the wire to the finger, and passes through the body to the other hand, and so into the bottom of the bottle.

Experiments confirming the above.

EXPERIMENT I.

Place an electrised phial on wax; a small cork ball, suspended by a dry silk-thread, held in your hand, and brought near to the wire, will first be attracted, and then repelled: when in this state of repellency, sink your hand, that the ball may be brought towards the bottom of the bottle; it will be there instantly and strongly attracted, 'till it has parted with its fire.

If the bottle had a *positive* electrical atmosphere, as well as the wire, an electrified cork would be repelled from one as well as from the other.

EXPERIMENT II.

PL. I. FIG. I. From a bent wire (*a*) sticking in the table, let a small linen thread (*b*) hang down within half an inch of the electrised phial (*c*). Touch the wire of the phial repeatedly with your finger, and at every touch you will see the thread instantly attracted by the bottle. (This is best done by a vinegar-cruet, or some such belly'd bottle.) As soon as you draw any fire out from the upper part by touch-

Plate I.

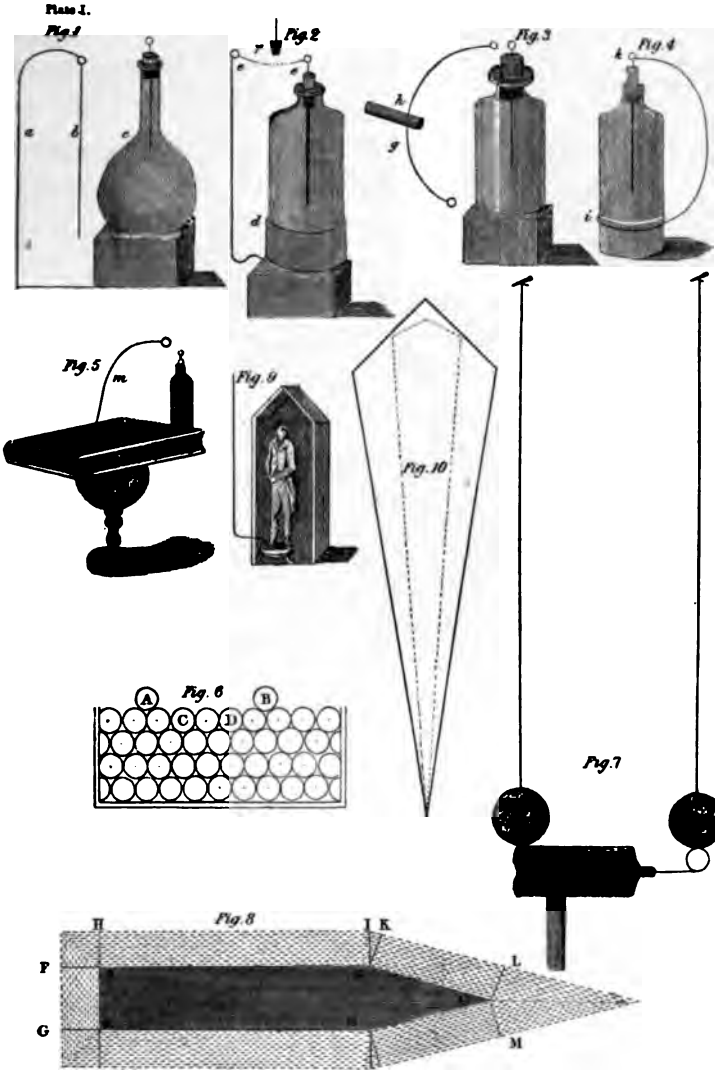
Fig. 1
a
b
c
d
Fig. 2
r
e
d
Fig. 3
h
g
Fig. 4
k
i
Fig. 5
m
Fig. 9
Fig. 10
Fig. 6
A
B
C
D
Fig. 7
Fig. 8
H
I
K
L
F
G
M

ing the wire, the lower part of the bottle draws an equal quantity in by the thread.

EXPERIMENT III.

FIG. 2. Fix a wire in the lead, with which the bottom of the bottle is armed (*d*), so as that bending upwards, its ring-end may be level with the top or ring-end of the wire in the cork (*e*), and at three or four inches distance. Then electricise the bottle, and place it on wax. If a cork, suspended by a silk thread (*f*), hang between these two wires, it will play incessantly from one to the other, 'till the bottle is no longer electrised; that is, it fetches and carries fire from the top to the bottom of the bottle, till the equilibrium is restored.

EXPERIMENT IV.

FIG. 3. Place an electrised phial on wax; take a wire (*g*) in form of a *C*, the ends at such a distance when bent, as that the upper may touch the wire of the bottle, when the lower touches the bottom: stick the outer part on a stick of sealing-wax (*h*), which will serve as a handle; then apply the lower end to the bottom of the bottle, and gradually bring the upper end near the wire in the cork. The consequence is, spark follows spark till the equilibrium is restored. Touch the top first, and, on approaching the bottom with the other end, you have a constant stream of fire from the wire entering the bottle. Touch the top and bottom together, and the equilibrium will instantly be restored, the crooked wire forming the communication.

EXPERIMENT V.

FIG. 4. Let a ring of thin lead, or paper, surround a bottle (*i*), even at some distance from or above the bottom. From

that ring let a wire proceed up, till it touch the wire of the cork (*k*). A bottle so fixt cannot by any means be electrised: the equilibrium is never destroyed: for while the communication between the upper and lower parts of the bottle is continued by the outside wire, the fire only circulates; what is driven out at bottom, is constantly supply'd from the top.[1] Hence a bottle cannot be electrised, that is foul or moist on the outside, if such moisture continue up to the cork or wire.

EXPERIMENT VI.

Place a man on a cake of wax, and present him the wire of the electrified phial to touch, you standing on the floor, and holding it in your hand. As often as he touches it, he will be electrified *plus;* and any one standing on the floor may draw a spark from him. The fire in this experiment passes out of the wire into him; and at the same time out of your hand into the bottom of the bottle.

EXPERIMENT VII.

Give him the electrical phial to hold; and do you touch the wire; as often as you touch it, he will be electrified *minus*, and may draw a spark from any one standing on the floor. The fire now passes from the wire to you, and from him into the bottom of the bottle.

EXPERIMENT VIII.

Lay two books on two glasses, back towards back, two or three inches distant. Set the electrified phial on one, and then touch the wire; that book will be electrified *minus;* the electrical fire being drawn out of it by the bottom of the

[1] *i.e.* from the inside to the outside. — F.

bottle. Take off the bottle, and, holding it in your hand, touch the other with the wire; that book will be electrified *plus;* the fire passing into it from the wire, and the bottle at the same time supplied from your hand. A suspended small cork ball will play between these books 'till the equilibrium is restored.

EXPERIMENT IX.

When a body is electrised *plus*, it will repel a positively electrified feather or small cork ball. When *minus* (or when in the common state), it will attract them, but stronger when *minus* than when in the common state, the difference being greater.

EXPERIMENT X.

Though, as in *Experiment* VI, a man standing on wax may be electrised a number of times by repeatedly touching the wire of an electrised bottle (held in the hand of one standing on the floor), he receiving the fire from the wire each time: yet holding it in his own hand, and touching the wire, though he draws a strong spark, and is violently shocked, no Electricity remains in him; the fire only passing through him, from the upper to the lower part of the bottle. Observe, before the shock, to let some one on the floor touch him to restore the equilibrium in his body; for in taking hold of the bottom of the bottle, he sometimes becomes a little electrised *minus*, which will continue after the shock, as would also any *plus* Electricity, which he might have given him before the shock. For, restoring the equilibrium in the bottle does not at all effect the Electricity in the man through whom the fire passes; that Electricity is neither increased nor diminished.

EXPERIMENT XI.

The passing of the electrical fire from the upper to the lower part[1] of the bottle, to restore the equilibrium, is rendered strongly visible by the following pretty experiment. Take a book whose covering is filletted with gold; bend a wire of eight or ten inches long, in the form of (*m*), Fig. 5; slip it on the end of the cover of the book, over the gold line, so as that the shoulder of it may press upon one end of the gold line, the ring up, but leaning towards the other end of the book. Lay the book on a glass or wax, and on the other end of the gold lines set the bottle electrised; then bend the springing wire, by pressing it with a stick of wax, till its ring approaches the ring of the bottle wire; instantly there is a strong spark and stroke, and the whole line of gold, which completes the communication between the top and bottom of the bottle, will appear a vivid flame, like the sharpest lightning. The closer the contact between the shoulder of the wire and the gold at one end of the line, and between the bottom of the bottle and the gold at the other end, the better the experiment succeeds. The room should be darkened. If you would have the whole filletting round the cover appear in fire at once, let the bottle and wire touch the gold in the diagonally opposite corners.

I am, &c.

B. FRANKLIN.

[1] That is, from the *inside* to the *outside*. — F.

68. TO CADWALLADER COLDEN

PHILADELPHIA, October 1, 1747.

SIR,

I send you herewith the "History of the Five Nations." You will perceive that Osborne, to puff up the book, has inserted the Charters, &c., of this province, all under the title of *History of the Five Nations;* which I think was not fair, but it is a common trick of booksellers.

Mr. James Read, to whom Mr. Osborne has sent a parcel of books by recommendation of Mr. Collinson, being engaged in business of another kind, talks of declining to act in disposing of them, and perhaps may put them into my hands. If he should, I will endeavour to do Mr. Osborne justice in disposing of them to the best advantage, as also of any parcel he may send me from your recommendation.

Mr. Armit is returned well from New England. As he has your power of attorney, and somewhat more leisure at present, than I have, I think to put your letter to Mr. Hughes into his hands, and desire him to manage the affair of your servant. I shall write a line besides to Hughes, that he would assist in obliging the servant to do you justice, which may be of some service, as he owns himself obliged to me, for recovering a servant for him, that had been gone above a twelve-month. I am, Sir, &c.

B. FRANKLIN.

69. PREFACE TO POOR RICHARD IMPROVED: 1748 (P. H. 8.)

Kind Reader

The favourable Reception my annual Labours have met with from the Publick these 15 Years past, has engaged me in Gratitude to endeavour some Improvements of my Almanack. And since my Friend *Taylor* is no more, whose *Ephemerides* so long and so agreeably serv'd and entertain'd these Provinces, I have taken the Liberty to imitate his well-known Method, and give two Pages for each Month; which affords me Room for several valuable Additions, as will best appear on Inspection and Comparison with former Almanacks. Yet I have not so far follow'd his Method, as not to continue my own when I thought it preferable; and thus my Book is increas'd to a Size beyond his, and contains much more Matter.

Hail Night serene! thro' Thee where'er we turn
Our wond'ring Eyes, Heav'n's Lamps profusely burn;
And Stars unnumber'd all the Sky adorn.
But lo! — what's that I see appear?
It seems far off a pointed flame;
From Earthwards too the shining Meteor came:
How swift it climbs th' etherial Space!
And now it traverses each Sphere,
And seems some knowing Mind, familiar to the Place,
Dame, hand my Glass, the longest, strait prepare;
'Tis He — 'tis TAYLOR'S Soul, that travels there.
O stay! thou happy Spirit, stay,
And lead me on thro' all th' unbeaten Wilds of Day;

Where Planets in pure Streams of Ether driven,
Swim thro' the blue Expanse of Heav'n.
There let me, thy Companion, stray
From Orb to Orb, and now behold
Unnumber'd Suns, all Seas of molten Gold,
And trace each Comet's wandring Way. —

Souse down into Prose again, my Muse; for Poetry's no more thy Element, than Air is that of the Flying-Fish; whose Flights, like thine, are therefore always short and heavy. — [1]

[1] Then follows an account from Middleton of the severe cold of British America, in the neighbourhood of Hudson Bay. — ED.

70. PLAIN TRUTH:[1] (P. H. S.)

OR,

SERIOUS CONSIDERATIONS

ON THE PRESENT STATE OF THE CITY OF PHILADELPHIA,

AND

PROVINCE OF PENNSYLVANIA

BY A TRADESMAN OF PHILADELPHIA

Captâ urbe, nihil fit reliqui victis. Sed, per deos immortales, vos ego appello, qui semper domos, villas, signa, tabulas vestras, tantæ æstimationis fecistis; si ista, cujuscumque modi sint, quæ amplexamini, retinere, si voluptatibus vestris otium præbere vultis; expergiscimini aliquando, et capessite rempublicam. Non agitur nunc...de sociorum injuriis; LIBERTAS ET ANIMA nostra in dubio est.... Dux hostium cum exercitu supra caput est. Vos cunctamini etiam nunc, et dubitatis quid...faciatis?... Scilicet res ipsa aspera est, sed vos non timetis eam. Imo vero maxime; sed inertiâ et mollitiâ animi, alius alium exspectantes, cunctamini; videlicet, Diis immortalibus confisi, qui hanc rempublicam in maxumis periculis servavere. *Non votis, neque suppliciis muliebribus, auxilia deorum parantur:* vigilando, agendo, bene consulendo, prospere omnia cedunt. Ubi socordiæ tete (sic) atque ignaviæ tradideris, nequicquam deos implores; irati, infestique sunt.

M. POR. CATO, in SALUST.

PRINTED IN THE YEAR MDCCXLVII[2]

[1] Published November 14, 1747. See the biographical sketch in Vol. X for a full history of this tract. — ED.

[2] The design and the wood-cut are not badly executed. At the bottom is a part of the motto inserted in the title-page; *Non votis* [*neque suppliciis muliebribus, auxilia deorum parantur*]. — ED.

IT is said the wise *Italians* make this proverbial Remark on our Nation, *viz.* "The English *feel*, but they do not *see*." That is, they are sensible of Inconveniencies when they are present, but do not take sufficient Care to prevent them: their natural Courage makes them too little apprehensive of Danger, so that they are often surpriz'd by it, unprovided of the proper Means of Security. When 'tis too late, they are sensible of their Imprudence: After great Fires, they provide Buckets and Engines: after a Pestilence they think of keeping clean their Streets and common Shores: and when a Town has been sack'd by their Enemies, they provide for its Defence, &c. This Kind of After-Wisdom is indeed so common with us, as to occasion the vulgar, tho' very significant Saying, *When the Steed is stolen, you shut the Stable Door.*

But the more insensible we generally are of publick Danger, and indifferent when warn'd of it, so much the more freely, openly, and earnestly, ought such as apprehend it, to speak their Sentiments; that if possible, those who seem to sleep, may be awaken'd, to think of some Means of Avoiding or Preventing the Mischief before it be too late.

Believing therefore that 'tis my *Duty*, I shall honestly speak my Mind in the following Paper.

War, at this Time, rages over a great Part of the known World; our News-Papers are Weekly filled with fresh Accounts of the Destruction it everywhere occasions. *Pennsylvania*, indeed, situate in the Center of the Colonies, has hitherto enjoy'd profound Repose; and tho' our Nation is engag'd in a bloody War, with two great and powerful Kingdoms, yet, defended, in a great Degree, from the *French* on the one Hand, by the Northern Provinces, and from the

Spaniards on the other by the Southern, at no small Expence to each, our People have, till lately, slept securely in their Habitations.

There is no *British* Colony excepting this, but has made some Kind of Provision for its Defence; many of them have therefore never been attempted by an Enemy; and others that were attack'd, have generally defended themselves with Success. The Length and Difficulty of our Bay and River have been thought so effectual a Security to us, that hitherto no Means have been entered into that might discourage an Attempt upon us, or prevent its succeeding.

But whatever Security this might have been while both Country and City were poor, and the Advantage to be expected scarce worth the Hazard of an Attempt, it is now doubted whether we can any longer safely depend upon it. Our Wealth, of late Years much encreas'd, is one strong Temptation, our defenceless State another, to induce an Enemy to attack us; while the Acquaintance they have lately gained with our Bay and River, by Means of the Prisoners and Flags of Truce they have had among us; by Spies which they almost everywhere maintain, and perhaps from Traitors among ourselves; with the Facility of getting Pilots to conduct them; and the known Absence of Ships of War, during the greatest Part of the Year, from both *Virginia* and *New-York*, ever since the War began, render the Appearance of Success to the Enemy far more promising, and therefore highly encrease our Danger.

That our Enemies may have Spies abroad, and some even in these Colonies, will not be made much doubt of, when 'tis considered, that such has been the Practice of all Nations in all Ages, whenever they were engaged, or intended to

engage in War. Of this we have an early Example in the Book of *Judges* (too too pertinent to our Case, and therefore I must beg leave a little to enlarge upon it) where we are told, (Chap. xviii. v. 2,) that *the Children of Dan sent of their Family five Men from their Coasts to spie out the Land, and search it, saying, Go, search the Land.* These *Danites*, it seems were at this Time not very orthodox in their Religion, and their Spies met with a certain idolatrous Priest of their own Persuasion, (v. 3.) and they said to him, *Who brought thee hither! What makest thou in this Place? And what hast thou here?* [Would to God no such priests were to be found among us.] *And they said unto him,* (v. 5,) *Ask Counsel of God, that we may know, whether our Way which we go shall be prosperous? and the Priest said unto them, Go in Peace; before the Lord is your Way wherein you go.* [Are there no Priests among us, think you, that might, in the like Case, give an Enemy as good Encouragement? 'Tis well known, that we have Numbers of the same Religion with those who of late encouraged the *French* to invade our Mother-Country.] *And they came,* (Verse 7.) *to Laish, and saw the People that were therein, how they dwelt* CARELESS, *after the Manner of the Zidonians,* QUIET *and* SECURE. They *thought* themselves secure, no doubt; and as they *never had been* disturbed, vainly imagined they *never should.* 'Tis not unlikely, that some might see the Danger they were exposed to by living in that *careless* Manner; but that, if these publickly expressed their Apprehensions, the rest reproached them as timorous Persons, wanting Courage or Confidence in their Gods, who (they might say) had hitherto protected them. But the Spies, (Verse 8.) returned, and said to their Countrymen, (Verse 9.) *Arise that we may go up against them;*

for we have seen the Land, and behold it is very good! And are ye still? Be not slothful to go. (Verse 10.) *When ye go, ye shall come unto a People* SECURE; [that is, a People that apprehend no Danger, and therefore have made no Provision against it; great Encouragement this!] *and to a large Land, and a Place where there is no Want of any Thing.* What could they desire more? Accordingly we find, in the following Verses, that *six hundred Men* only, *appointed with Weapons of War*, undertook the Conquest of this *large Land;* knowing that 600 Men, armed and disciplined, would be an Over match perhaps for 60,000, unarmed, undisciplined, and off their Guard. And when they went against it, the idolatrous Priest, (Verse 17.) *with his graven Image, and his Ephod, and his Teraphim, and his molten Image*, (Plenty of superstitious Trinkets,) joined with them, and, no doubt, gave them all the Intelligence and Assistance in his Power; his Heart, as the Text assures us, *being glad*, perhaps for Reasons more than one. And now, what was the Fate of poor *Laish!* The 600 Men being arrived, found, as the Spies had reported, a People QUIET and SECURE, (Verse 20, 21.) *And they smote them with the Edge of the Sword, and burnt the City with* FIRE; *and there was no* DELIVERER, *because it was far from Zidon.* — Not so far from *Zidon*, however, as *Pennsylvania* is from *Britain;* and yet we are, if possible, more careless than the People of *Laish!* As the Scriptures are given for our Reproof, Instruction and Warning, may we make a due Use of this Example, before it be too late!

And is our *Country*, any more than our City, altogether free from Danger? Perhaps not. We have, 'tis true, had a long Peace with the *Indians:* But it is a long Peace indeed,

as well as a long Lane, that has no Ending. The *French* know the Power and Importance of the *Six Nations*, and spare no Artifice, Pains or Expence, to gain them to their Interest. By their Priests they have converted many to their Religion, and these have openly espoused their Cause. The rest appear irresolute which Part to take; no Persuasions, tho' enforced with costly Presents, having yet been able to engage them generally on our Side, tho' we had numerous Forces on their Borders, ready to second and support them. What then may be expected, now those Forces are, by Orders from the Crown, to be disbanded; when our boasted Expedition is laid aside, thro' want (as it may appear to them) either of Strength or Courage; when they see that the *French* and their *Indians*, boldly, and with Impunity, ravage the Frontiers of *New York* and scalp the Inhabitants; when those few *Indians* that engaged with us against the *French*, are left exposed to their Resentment: When they consider these Things, is there no Danger that, thro' Disgust at our Usage, joined with Fear of the *French* Power, and greater Confidence in their Promises and Protection than in ours, they may be wholly gained over by our Enemies, and join in the War against us? If such should be the Case, which God forbid, how soon may the Mischief spread to our Frontier Counties? And what may we expect to be the Consequence, but deserting of Plantations, Ruin, Bloodshed, and Confusion!

Perhaps some in the City, Towns and Plantations near the River, may say to themselves, *An* Indian *War on the Frontiers will not affect us; the Enemy will never come near our Habitations; let those concern'd take Care of themselves.* And others who live in the Country, when they are told of the

Danger the City is in from Attempts by Sea, may say, *What is that to us? The Enemy will be satisfied with the Plunder of the Town, and never think it worth his while to visit our Plantations: let the Town take care of itself.* These are not mere Suppositions, for I have heard some talk in this strange Manner. But are these the Sentiments of true *Pennsylvanians*, of Fellow-Countrymen, or even of Men that have Common Sense or Goodness? Is not the whole Province one Body, united by living under the same Laws, and enjoying the same Priviledges? Are not the People of City and Country connected as Relations both by Blood and Marriage, and in Friendships equally dear? Are they not likewise united in Interest, and mutually useful and necessary to each other? When the Feet are wounded, shall the Head say, *It is not me; I will not trouble myself to contrive Relief!* Or if the Head is in Danger, shall the Hands say, *We are not affected, and therefore will lend no Assistance!* No. For so would the Body be easily destroyed: But when all Parts join their endeavours for its Security, it is often preserved. And such should be the Union between the Country and the Town; and such their mutual Endeavours for the Safety of the Whole. When *New-England*, a distant Colony, involv'd itself in a grievous Debt to reduce *Cape-Breton*, we freely gave *Four Thousand Pounds* for *their* Relief. And at another Time, remembring that *Great Britain*, still more distant, groan'd under heavy Taxes in supporting the War, we threw in our Mite to their Assistance, by a free Gift of *Three Thousand Pounds:* And shall Country and Town join in helping Strangers (as those comparatively are), and yet refuse to assist each other?

But whatever different Opinions we have of our Security

in other Respects, our TRADE, all seem to agree, is in Danger of being ruin'd in another Year. The great Success of our Enemies, in two different Cruizes this last Summer in our Bay, must give them the greatest Encouragement to repeat more frequently their Visits, the Profit being almost certain, and the Risque next to nothing. Will not the first Effect of this, be, an Enhauncing of the Price of all foreign Goods to the Tradesman and Farmer, who use or consume them? For the Rate of Insurance will increase, in Proportion to the Hazard of Importing them; and in the same Proportion will the Price of those Goods increase. — If the Price of the Tradesman's Work and the Farmer's Produce would encrease equally with the Price of foreign Commodities, the Damage would not be so great: But the direct contrary must happen. For the same Hazard, or Rate of Insurance, that raises the Price of what is imported, must be deducted out of, and lower the Price of what is exported. Without this Addition and Deduction, as long as the Enemy cruize at our Capes, and take those Vessels that attempt to *go out*, as well as those that endeavour to *come in*, none can afford to trade, and Business must be soon at a Stand. And will not the Consequences be, a discouraging of many of the Vessels that us'd to come from other Places to purchase our Produce, and thereby a Turning of the Trade to Ports that can be entered with less Danger, and capable of furnishing them with the same Commodities, as *New-York*, &c. A Lessening of Business to every Shopkeeper, together with Multitudes of bad Debts; the high Rate of Goods discouraging the Buyers, and the low Rates of their Labour and Produce rendering them unable to pay for what they had bought: Loss of Employment to the Tradesman, and bad

Pay for what little he does: And, lastly, loss of many Inhabitants, who will retire to other Provinces not subject to the like Inconveniencies; whence a Lowering of the Value of Lands, Lots, and Houses?

The Enemy, no doubt, have been told, That the People of *Pennsylvania* are *Quakers*, and against all Defence, from a Principle of Conscience; this, tho' true of a Part, and that a small Part only of the Inhabitants, is commonly said of the Whole; and what may make it look probable to Strangers, is, that in Fact, nothing is done by any Part of the People towards their Defence. But to refuse Defending one's self, or one's Country, is so unusual a Thing among Mankind, that possibly they may not believe it, till by Experience they find, they can come higher and higher up our River, seize our Vessels, land and plunder our Plantations and Villages, and retire with their Booty unmolested. Will not this confirm the Report, and give them the greatest Encouragement to strike one bold Stroke for the City, and for the whole Plunder of the River?

It is said by some, that the Expense of a Vessel, to guard our Trade, would be very heavy, greater than perhaps all the Enemy can be supposed to take from us at Sea would amount to; and that it would be cheaper for the Government to open an Insurance-Office, and pay all Losses. But is this right Reasoning? I think not: For what the Enemy takes is clear Loss to us, and Gain to him; encreasing his Riches and Strength, as much as it diminishes ours, so making the Difference double; whereas the Money paid our own Tradesmen for Building and Fitting out a Vessel of Defence, remains in the Country, and circulates among us; what is paid to the Officers and Seamen that navigate

her, is also spent ashore, and soon gets into other Hands; the Farmer receives the Money for her Provisions, and on the whole, nothing is clearly lost to the Country but her Wear and Tear, or so much as she sells for at the End of the War less than her first Cost. This Loss, and a trifling one it is, is all the Inconvenience: But how many and how great are the Conveniencies and Advantages! And should the Enemy, thro' our Supineness and Neglect to provide for the Defence both of our Trade and Country, be encouraged to attempt this City, and after plundering us of our Goods, either *burn it*, or put it to Ransom; how great would that Loss be! Besides the Confusion, Terror, and Distress, so many Hundreds of Families would be involv'd in!

The Thought of this latter Circumstance so much affects me, that I cannot forbear expatiating somewhat more upon it. You have, my dear Countrymen, and Fellow-Citizens, Riches to tempt a considerable Force to unite and attack you, but are under no Ties or Engagements to unite for your Defence. Hence, on the first Alarm, *Terror* will spread over All; and as no Man can with Certainty depend that another will stand by him, beyond Doubt very many will seek Safety by a speedy Flight. Those that are reputed rich, will flee, thro' Fear of Torture, to make them produce more than they are able. The Man that has a Wife and Children, will find them hanging on his Neck, beseeching him with Tears to quit the City, and save his Life, to guide and protect them in that Time of general Desolation and Ruin. All will run into Confusion, amidst Cries and Lamentations, and the Hurry and Disorder of Departers, carrying away their Effects. The Few that remain will be unable to resist. *Sacking* the City will be the first, and *Burning* it,

in all Probability, the last Act of the Enemy. This, I believe, will be the Case, if you have timely notice. But what must be your Condition, if suddenly surprized, without previous Alarm, perhaps in the Night! Confined to your Houses, you will have nothing to trust to but the Enemy's Mercy. Your best Fortune will be, to fall under the Power of Commanders of King's Ships, able to controul the Mariners; and not into the Hands of *licentious Privateers*. Who can, without the utmost Horror, conceive the Miseries of the Latter! when your Persons, Fortunes, Wives and Daughters, shall be subject to the wanton and unbridled Rage, Rapine and Lust, of *Negroes*, *Molattoes*, and others, the vilest and most abandoned of Mankind.[1] A dreadful Scene! which some may represent as exaggerated. I think it my Duty to warn you: Judge for yourselves.

'Tis true, with very little Notice, the Rich may shift for themselves. The Means of speedy Flight are ready in their Hands; and with some previous Care to lodge Money and Effects in distant and secure Places, tho' they should lose much, yet enough may be left them, and to spare. But most unhappily circumstanced indeed are we, the middling People, the Tradesmen, Shopkeepers, and Farmers of this Province and City! We cannot all fly with our Families; and, if we could, how shall we subsist? No; we and they, and

[1] By Accounts, the ragged Crew of the *Spanish* Privateer that plundered Mr. *Liston's*, and another Plantation, a little below *Newcastle*, was composed of such as these. The *Honour* and *Humanity* of their Officers may be judg'd of, by the Treatment they gave poor Capt. *Brown*, whom they took with *Martin's* Ship in returning from their Cruize. Because he bravely defended himself and Vessel longer than they expected, for which every generous Enemy would have esteem'd him, did they, after he had struck and submitted, barbarously *stab* and *murder* him, tho' on his Knees begging Quarter!

what little we have gained by hard Labour and Industry, must bear the Brunt: The Weight of Contributions, extorted by the Enemy (as it is of Taxes among ourselves) must be surely borne by us. Nor can it be avoided as we stand at present; for tho' we are numerous, we are quite defenceless, having neither Forts, Arms, Union, nor Discipline. And tho' it were true, that our Trade might be protected at no great Expence, and our Country and our City easily defended, if proper Measures were but taken; yet who shall take these Measures? Who shall pay that Expence? On whom may we fix our Eyes with the least Expectation that they will do any one Thing for our Security? Should we address that wealthy and powerful Body of People, who have ever since the War governed our Elections, and filled almost every Seat in our Assembly; — should we intreat them to consider, if not as Friends, at least as Legislators, that *Protection* is as truly due from the Government to the People, as *Obedience* from the People to the Government; and that if on account of their religious Scruples, they themselves could do no Act for our Defence, yet they might retire, relinquish their Power for a Season, quit the Helm to freer Hands during the present Tempest, to Hands chosen by their own Interest too, whose Prudence and Moderation, with regard to them, they might safely confide in, secure, from their own native Strength, of resuming again their present Stations, whenever it shall please them: Should we remind them, that the Publick Money, raised *from All*, belongs *to All;* that since they have, for their own Ease, and to secure themselves in the quiet Enjoyment of their Religious Principles (and may they long enjoy them), expended such large Sums to oppose Petitions, and engage favourable Representations of their Conduct,

if they themselves could by no Means be free to appropriate any Part of the Publick Money for our Defence; yet it would be no more than Justice to spare us a reasonable Sum for that Purpose, which they might easily give to the King's Use as heretofore, leaving all the Appropriation to others, who would faithfully apply it as we desired: Should we tell them, that tho' the Treasury be at present empty, it may soon be filled by the outstanding Publick Debts collected; or at least Credit might be had for such a Sum, on a single Vote of the Assembly: That tho' *they* themselves may be resigned and easy under this naked, defenceless State of the Country, it is far otherwise with a very great Part of the People, — with *us*, who can have no Confidence that God will protect those that neglect the use of rational Means for their Security; nor have any Reason to hope, that our Losses, if we should suffer any, may be made up by Collections in our Favour at Home. Should we conjure them by all the Ties of Neighbourhood, Friendship, Justice and Humanity, to consider these Things; and what Distraction, Misery, and Confusion, what Desolation and Distress, may possibly be the Effect of their *unseasonable* Predominancy and Perseverance; — yet all would be in vain: For they have already been by great Numbers of the People petitioned in vain. Our late Governor did for Years sollicit, request, and even threaten them in vain. The Council have since twice remonstrated to them in vain. Their religious Prepossessions are unchangeable, their Obstinacy invincible. Is there then the least Hope remaining, that from that Quarter any Thing should arise for our Security?

And is our Prospect better, if we turn our Eyes to the Strength of the *opposite Party*, those Great and rich Men,

Merchants and others, who are ever railing at *Quakers* for doing what their Principles seem to require, and what in Charity we ought to believe they think their Duty, but take no one Step themselves for the Publick Safety? They have so much Wealth and Influence, if they would use it, that they might easily, by their Endeavours and Example, raise a military Spirit among us, make us fond, studious of, and expert in Martial Discipline, and effect every Thing that is necessary, under God, for our Protection. But ENVY seems to have taken Possession of their Hearts, and to have eaten out and destroyed every generous, noble, publick-spirited Sentiment. *Rage* at the Disappointment of their little Schemes for Power, gnaws their Souls, and fills them with such cordial Hatred to their Opponents, that every Proposal, by the Execution of which *those* may receive Benefit as well as themselves, is rejected with Indignation. *What*, say they, *shall we lay out our Money to protect the Trade of Quakers? Shall we fight to defend Quakers? No; let the Trade perish, and the City burn; let what will happen, we shall never lift a Finger to prevent it.* Yet the Quakers have *Conscience* to plead for their Resolution not to fight, which these Gentlemen have not. *Conscience* with you, Gentlemen, is on the other Side of the Question: *Conscience* enjoins it as a DUTY on you (and indeed I think it such on every Man) to defend your Country, your Friends, your aged Parents, your Wives, and helpless Children: And yet you resolve not to perform this Duty, but act *contrary* to *your own* Consciences, because the Quakers act *according to theirs*. 'Till of late, I could scarce believe the Story of him, who refused to pump in a sinking Ship, because one on board, whom he hated, would be saved by it as well as himself. But such, it seems, is the

Unhappiness of human Nature, that our Passions, when violent, often are too hard for the united force of Reason, Duty, and Religion.

Thus unfortunately are we circumstanc'd at this Time, my dear Countrymen and Fellow-Citizens; we, I mean, the middling People, the Farmers, Shopkeepers and Tradesmen of this City and Country. Thro' the Dissensions of our Leaders, thro' *mistaken Principles* of *Religion*, join'd with a Love of Worldly Power, on the one Hand; thro' *Pride*, *Envy*, and *implacable Resentment* on the other; our Lives, our Families and little Fortunes, dear to us as any Great Man's can be to him, are to remain continually expos'd to Destruction, from an enterprizing, cruel, now well-inform'd, and by Success encourag'd Enemy. It seems as if Heaven, justly displeas'd at our growing Wickedness, and determin'd to punish [1] this once-favoured Land, had suffered our Chiefs to engage in these foolish and mischievous Contentions, for *little Posts* and *paltry Distinctions*, that our Hands might be bound up, our Understandings darkned and misled, and every Means of our Security neglected. It seems as if our greatest Men, our *Cives nobilissimi* [2] of both Parties, had *sworn the Ruin of the Country*, and *invited the* French, our *most inveterate Enemy*, *to destroy it*. Where then shall we seek for Succour and Protection? The Gov-

[1] When God determined to punish his chosen People, the Inhabitants of *Jerusalem*, who, tho' Breakers of his other Laws, were scrupulous Observers of that ONE which required keeping holy the Sabbath-Day; he suffered even the strict Observation of that Command to be their Ruin: For *Pompey*, observing that they *then* obstinately refused to fight, made a general Assault on that Day, took the Town, and butcher'd them with as little Mercy as he found Resistance. — JOSEPHUS.

[2] Conjuravere cives nobilissimi patriam incendere; GALLORUM GENTEM, infestissimam nomini Romano, ad bellum arcessunt. — CATO, in SALUST.

ernment we are immediately under denies it to us; and if the Enemy comes, we are *far from Zidon, and there is no Deliverer near.* Our Case indeed is dangerously bad; but perhaps there is yet a Remedy, if we have but the Prudence and the Spirit to apply it.

If this now flourishing City, and greatly improving Colony, is destroy'd and ruin'd, it will not be for want of Numbers of Inhabitants able to bear Arms in its Defence. 'Tis computed, that we have at least (exclusive of the Quakers) 60,000 Fighting Men, acquainted with Fire Arms, many of them Hunters and Marksmen, hardy and bold. All we want is Order, Discipline, and a few Cannon. At present we are like the separate Filaments of Flax before the Thread is form'd, without Strength, because without Connection; but UNION would make us strong, and even formidable: Tho' the *Great* should neither help nor join us; tho' they should even oppose our Uniting, from some mean Views of their own, yet, if we resolve upon it, and it please God to inspire us with the necessary Prudence and Vigour, it *may* be effected. Great Numbers of our People are of British Race, and tho' the fierce fighting Animals of those happy Islands, are said to abate their native Fire and Intrepidity, when removed to a foreign Clime, yet with the People 'tis not so; Our Neighbours of *New-England* afford the World a convincing Proof, that Britons, tho' a Hundred Years transplanted, and to the remotest Part of the Earth, may yet retain, even to the third and fourth Descent, that *Zeal* for the *Publick Good*, that *military Prowess*, and that *undaunted Spirit*, which has in every age distinguished their Nation. What Numbers have we likewise of *those brave People*, whose Fathers in the last Age made so glorious a Stand for our Religion and Liberties,

when invaded by a powerful *French* Army, join'd by *Irish* Catholicks, under a bigotted *Popish* king! Let the memorable SIEGE of LONDONDERRY, and the signal actions of the INISKILLINGERS, by which the Heart of that Prince's Schemes was broken, be perpetual Testimonies of the *Courage* and *Conduct* of those *noble Warriors!* Nor are there wanting amongst us, Thousands of *that Warlike Nation*, whose Sons have ever since the Time of *Cæsar* maintained the Character he gave their Fathers, of joining the most *obstinate Courage* to all the other military Virtues; I mean the *brave* and *steady* GERMANS. Numbers of whom have actually borne Arms in the Service of their respective Princes; and if they fought well for their Tyrants and Oppressors, would they refuse to unite with us in Defence of their *newly acquired* and most precious *Liberty* and *Property?* Were this Union formed, were we once united, thoroughly arm'd and disciplin'd, was every Thing in our Power done for our Security, as far as human Means and Foresight could provide, we might then, *with more Propriety*, humbly ask the Assistance of Heaven, and a Blessing on our lawful Endeavours. The very Fame of our Strength and Readiness would be a Means of Discouraging our Enemies; for 'tis a wise and true Saying, that *One Sword often keeps another in the Scabbard.* The Way to secure Peace is to be prepared for War. They that are on their Guard, and appear ready to receive their Adversaries, are in much less Danger of being attack'd, than the supine, secure and negligent. We have yet a Winter before us, which may afford a good and almost sufficient Opportunity for this, if we seize and improve it with a becoming Vigour. And if the Hints contained in this Paper are so happy as to meet with a suitable Disposition of Mind in his Countrymen

and Fellow-Citizens, the Writer of it will, in a few Days, lay before them a Form of an ASSOCIATION for the Purposes herein mentioned, together with a practicable Scheme for raising the Money necessary for the Defence of our Trade, City, and Country, without laying a Burthen on any Man.

May the God of Wisdom, Strength, and Power, the Lord of the Armies of Israel, inspire us with Prudence in this Time of Danger; take away from us all the Seeds of Contention and Division, and unite the Hearts and Counsels of all of us, of whatever Sect or Nation, in one Bond of Peace, Brotherly Love, and Generous Publick Spirit; May he give us Strength and Resolution to amend our Lives, and remove from among us every Thing that is displeasing to him; afford us his most gracious Protection, confound the Designs of our Enemies, and give Peace in all our Borders, is the sincere Prayer of

A TRADESMAN OF PHILADELPHIA.[1]

[1] At the end of the second edition is added the following communication, purporting to be an extract from the *Pennsylvania Gazette*, for November 19th, 1747:—

"MR. FRANKLIN,

For the Entertainment of your readers unskilled in the Latin tongue, I send you a translation of the sentences prefixed to the pamphlet called PLAIN TRUTH, lately published. I cannot say the translation is strictly verbal, nor do I pretend to have reached the masterly force and beauty of the original. To transfuse the spirit of the noble Roman patriot into our language, requires a much abler pen. If I have given you his general sense and meaning, it will fully answer my design and expectation. Be pleased to let it have a place in your next, and you will much oblige Yours, &c.,

"X.

"TRANSLATION

"Should the city be taken, all will be lost to the conquered. Therefore, if you desire to preserve your buildings, houses, and country-seats, your statues, paintings, and all your other possessions, which you so highly esteem; if you wish to continue in the enjoyment of them, or to have leisure for any

71. TO CADWALLADER COLDEN

PHILADELPHIA, November 27, 1747.

SIR,

The violent party spirit, that appears in all the votes, &c., of your Assembly, seems to me extremely unseasonable as well as unjust, and to threaten mischief not only to yourselves but to your neighbours. It begins to be plain that the French may reap great advantages from your divisions. God grant they may be as blind to their own interest, and as negligent of it, as the English are of theirs. It must be inconvenient to you to remove your family, but more so to you and them to live under continual apprehensions and alarms. I shall be glad to hear you are all in a place of safety.

Though "*Plain Truth*" bore somewhat hard on both parties here, it has had the happiness not to give much offence to either. It has wonderfully spirited us up to defend our-

future pleasures, I beseech you by the immortal Gods, rouse at last, awake from your lethargy, and save the commonwealth. It is not the trifling concern of injuries from your allies that demands your attention; your liberties, lives, and fortunes, with every thing that is interesting and dear to you, are in the most imminent danger. Can you doubt of or delay what you ought to do, now, when the enemy's swords are unsheathed, and descending on your heads? The affair is shocking and horrid! Yet, perhaps, you are not afraid. Yes, you are terrified to the highest degree. But through indolence and supineness of soul, gazing at each other, to see who shall first rise to your succour; and a presumptuous dependence on the immortal Gods, who indeed have preserved this republic in many dangerous seasons; you delay and neglect every thing necessary for your preservation. Be not deceived; Divine assistance and protection are not to be obtained by timorous prayers, and womanish supplications. To succeed, you must join salutary counsels, vigilance, and courageous actions. If you sink into effeminacy and cowardice; if you desert the tender and helpless, by Providence committed to your charge, never presume to implore the Gods; it will provoke them, and raise their indignation against you."

selves and country, to which end great numbers are entering into an association, of which I send you a copy enclosed. We are likewise setting on foot a lottery to raise three thousand pounds for erecting a battery of cannon below the city. We have petitioned the Proprietor to send us some from England, and have ordered our correspondents to send us over a parcel, if the application to the Proprietor fails. But, lest by any accident they should miscarry, I am desired to write to you, and ask your opinion, whether, if our government should apply to Governor Clinton to borrow a few of your spare cannon, till we could be supplied, such application might probably meet with success. Pray excuse the effects of haste on this letter.

I am, Sir, with the greatest respect, your most obliged humble servant. B. FRANKLIN.

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72. TO WILLIAM STRAHAN

PHILADELPHIA, November 28, 1747.

SIR: — I received your favour of June 11th, *per* Capt. Tiffin, with the books, etc., all in good order. Mr. Parks, who drew the bill on Guidart & Sons, is surprised at their protesting it, they having, as he says, large effects of his in their hands: he will speedily renew that bill. Enclosed I send you a bill on Hr. Kilby, Esq., for £19 7s. 1½d. sterling, which I hope will be readily paid; and you may expect other bills from me for larger sums. What books will be wanted for the shop hereafter, Mr. Hall will write for. I shall send for no more unless for myself or a friend. I must desire you to send *per* first opportunity the maps formerly wrote for, viz.: Popple's large one of North America, pasted on

rollers; Ditto bound in a book; and eight or ten other maps of equal size if to be had; they are for the long gallery and the Assembly room in the State-house. If none so large are to be got, let prospects of cities, buildings, etc., be pasted round them to make them as large. I want also Folard's Polybius,[1] in French; it is in six volumes, 4to, printed at Paris, and costs about three guineas. My best respects to good Mrs. Strahan; I know not but in another year I may have the pleasure of seeing you both in London. Please to deliver the enclosed to Mr. Acworth — I know not where to direct to him. I am, dear sir, your most obliged humble servant, B. FRANKLIN.

73. TO JAMES LOGAN

SIR, MONDAY NOON, [December 4, 1747].

I am heartily glad you approve of our proceedings. We shall have arms for the poor in the spring, and a number of battering cannon. The place for the batteries is not yet fixed; but it is generally thought that near Red Bank will be most suitable, as the enemy must there have natural difficulties to struggle with, besides the channel being narrow. The Dutch are as hearty as the English. "Plain Truth" and the "Association" are in their language, and their parsons encourage them. It is proposed to breed gunners by forming an artillery club, to go down weekly to the battery and exercise the great guns. The best engineers against Cape Breton were of such a club, tradesmen and shopkeepers of Boston. I was with them at the Castle[2] at their exercise in 1743.

[1] See letter to Strahan, Oct. 19, 1748, for the explanation of this order. — ED.

[2] Castle William, in Boston harbour. — ED.

I have not time to write longer, nor to wait on you till next week. In general all goes well, and there is a surprising unanimity in all ranks. Near eight hundred have signed the *Association*, and more are signing hourly.[1] One company of Dutch is complete. I am with great respect, Sir, &c.

B. FRANKLIN.

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74. TO CADWALLADER COLDEN

PHILADELPHIA, January 27, 1748.

DEAR SIR,

I received your favour relating to the cannon. We have petitioned our Proprietors for some, and have besides wrote absolutely to London for a quantity, in case the application to the Proprietors should not succeed; so that, accidents excepted, we are sure of being supplied some time next summer. But, as we are extremely desirous of having some mounted early in the spring, and perhaps, if your engineer should propose to use all you have, the works he may intend will not very soon be ready to receive them, we should think ourselves exceedingly obliged to your government, if

[1] The "Association" was intended for the defence of Philadelphia. In *The Pennsylvania Gazette*, November 26, 1747, it is thus referred to: "Last Saturday a great number of the Inhabitants of this City met at Mr. Walton's School-House in Arch Street, where a Form of an Association for our common Security and Defense against the Enemy was consider'd and agreed to. On Monday following the same was laid before a great meeting of the Principal Gentlemen, Merchants and others, at Roberts' Coffee House, when, after due Debate, it was unanimously approv'd of, and another meeting appointed for the next Day following at the New Building, in order to begin signing. According, on Tuesday Evening upwards of five hundred men of all Ranks subscribed their names; and as the Subscribing is still going on briskly in all parts of the Town, 'tis not doubted but that in a few Days the number will exceed a thousand in this City, exclusive of the neighbouring Towns and Country." — ED.

you would lend us a few for one year only. When you return to New York, I hope a great deal from your interest and influence.

Mr. Read, to whom Osborne consigned your books,[1] did not open or offer them for sale till within these two weeks, being about to remove, when he received them, and having till now no conveniency of shelves, &c. In our two last papers he has advertised generally, that he has a parcel of books to sell, Greek, Latin, French, and English, but makes no particular mention of the Indian History; it is therefore no wonder that he has sold none of them, as he told me a few days since. I had one of them from London, which I sent you before any of my friends saw it. So, as no one here has read it but myself, I can only tell you my own opinion, that it is a well written, entertaining, and instructive piece, and must be exceedingly useful to all those colonies, which have any thing to do with Indian affairs.

You have reason to be pleased with the mathematician's envious expression about your tract on gravitation. I long to see from Europe some of the deliberate and mature thoughts of their philosophers upon it.

To obtain some leisure I have taken a partner[2] into the printing-house; but, though I am thereby a good deal dis-

[1] Mr. Colden's "History of the Five Indian Nations," which was published in London, and copies of which were sent over to be sold in Philadelphia. — ED.

[2] David Hall, a Scotchman by birth, and a friend of Mr. Strahan, worked in the same office with him as a journeyman printer in London. His partnership with Franklin continued eighteen years, during which time he had the principal charge of the business, and proved himself an honest, industrious, and worthy man. He conducted the *Pennsylvania Gazette* with prudence and ability. He was likewise a bookseller and stationer. He died on the 17th of December, 1772, at the age of fifty-eight years. See Thomas's "History of Printing," Vol. II. p. 54. — S.

engaged from private business, I find myself still fully occupied. The association, lottery, and batteries fill up at present a great part of my time.

I thank you for communicating the sheet on the first principles of morality, the continuation of which I shall be glad to see. I am, &c.

B. FRANKLIN.

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75. TO JAMES LOGAN

Philadelphia, January 27, 1748.

SIR,

I have not yet found the book, but suppose I shall to-morrow. The post goes out to-day, which allows me no time to look for it. We have a particular account from Boston of the guns there. They are in all thirty-nine, Spanish make and new; fifteen of them are twenty-eight pounders, and twenty-four are fourteen pounders. We offer by this post £1500, this currency, for them all, and suppose we shall get them.

The insurers, in consideration of the premium of twenty per cent, engage thus: that, if the prizes arising against the tickets insured do not, one with another, make in the whole a sum equal to the first cost of the tickets, they will make up the deficiency. They now think it a disadvantageous agreement, and have left off insuring; for though they would gain, as you observe, £1000, if they insured the whole at that rate, in one lot, yet it will not be so when they insure a number of separate lots, as ten, twenty, or one hundred tickets in a lot; because the prizes, falling in one lot, do not help to make up the deficiencies in another. The person that in-

sured your one hundred and twenty-five, did the next day give the whole premium to another with six and a quarter per cent more, to be reinsured two thirds of them. I have not insured for anybody, so I shall neither lose nor gain that way. I will send the policy, that you may see it, with the book. I am, Sir, &c.

B. FRANKLIN.

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76. TO JAMES LOGAN

Philadelphia, January 30, 1748.

SIR,

I send you herewith the book, and enclosed is the policy. Here is no news but what is bad, namely, the taking of Mesnard, an account of which we have by way of Lisbon. He was carried into St. Malo. And just now we have advice from New York, that an express was arrived there from New England to inform the government that two prisoners, who had escaped from different parts of Canada and arrived in New England, agreed in declaring, that three thousand men were getting ready to march against Albany, which they intended to besiege and take; and that they were to be joined by a great body of Indians. They write from New York, that the advice is credited there. I wish it may not prove too true, the wretched divisions and misunderstandings among the principal men in that government giving the enemy too much encouragement and advantage.

I hope you and your good family continue well, being with sincere respect and affection, &c.

B. FRANKLIN.

77. TO JAMES LOGAN

Philadelphia, April 6, 1748.

SIR,

I have a letter from Mr. Samuel Laurens, of New York, who undertook to ship the guns for us, informing me that two small vessels had been agreed with to bring them round; but a sloop arriving there on Sunday last, that had been chased in latitude thirty-six by a ship and brigantine, which were supposed to be the *Don Pedro* with a consort coming on this coast, the Governor and Council thought it more advisable to send them to Brunswick, which we since hear is done. Captain Wallace, a discreet old sea commander of this place, goes to-day or to-morrow to receive them there, and provide carriages to bring them to Philadelphia. The postmaster at New York, and another correspondent there, write me, that the ship seen was certainly the *Don Pedro*, the captain of the vessel chased knowing her well, having often seen her at the Havana, where he has been several voyages with a flag of truce. He was very near being taken, but escaped by favour of the night. We are glad to hear the Don is come out with one consort only, as by some accounts we apprehended he intended to bring a small fleet with him. It now looks as if his design was more against our trade than our city.

With this I send you a packet from London, and a pamphlet from Sweden, both left with me for you by the new Swedish missionary, Mr. Sandin. You must have heard that Mr. James Hamilton is appointed our governor; an event that gives us the more pleasure, as we esteem him a benevolent

and upright, as well as a sensible man. I hope he will arrive here early in the summer, and bring with him some cannon from the Proprietors. I am, Sir, &c.

B. FRANKLIN.

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78. TO CADWALLADER COLDEN

Philadelphia, September 29, 1748.

SIR,

I received your favour of the 12th instant, which gave me the greater pleasure, as it was so long since I had heard from you. I congratulate you on your return to your beloved retirement. I, too, am taking the proper measures for obtaining leisure to enjoy life and my friends, more than heretofore, having put my printing-house under the care of my partner, David Hall, absolutely left off bookselling, and removed to a more quiet part of the town, where I am settling my old accounts, and hope soon to be quite master of my own time, and no longer, as the song has it, *at every one's call but my own*. If health continue, I hope to be able in another year to visit the most distant friend I have, without inconvenience.

With the same views I have refused engaging further in public affairs. The share I had in the late Association, &c., having given me a little present run of popularity, there was a pretty general intention of choosing me a representative of the city at the next election of Assembly men; but I have desired all my friends, who spoke to me about it, to discourage it, declaring that I should not serve, if chosen. Thus you see I am in a fair way of having no other tasks, than such as I shall like to give myself, and of enjoying what I look

upon as a great happiness, leisure to read, study, make experiments, and converse at large with such ingenious and worthy men, as are pleased to honour me with their friendship or acquaintance, on such points as may produce something for the common benefit of mankind, uninterrupted by the little cares and fatigues of business. Among other pleasures I promise myself, that of corresponding more frequently and fully with Dr. Colden is none of the least. I shall only wish that what must be so agreeable to me may not prove troublesome to you.

I thank you for your kind recommending of me to Mr. Osborne. Mr. Read would readily have put the books into my hands, but, it being now out of my way to dispose of them, I propose to Mr. Hall the taking of them into his shop; but he, having looked over the invoice, says they are charged so extravagantly high, that he cannot sell them for any profit to himself, without hurting the character of his shop. He will, however, at my request, take the copies of the Indian History and put them on sale; but the rest of the cargo must lie, I believe, for Mr. Osborne's further orders. I shall write to him by our next vessels.

I am glad you have had an opportunity of gaining the friendship of Governor Shirley, with whom though I have not the honour of being particularly acquainted, I take him to be a wise, good, and worthy man. He is now a fellow sufferer with you, in being made the subject of some public, virulent, and senseless libels. I hope they give him as little pain.

Mr. Bartram continues well. Here is a Swedish gentleman,[1] a professor of botany, lately arrived, and I suppose

[1] This gentleman was Peter Kalm, the Swedish traveller, who spent some

will soon be your way, as he intends for Canada. Mr. Collinson and Dr. Mitchell recommend him to me as an ingenious man. Perhaps the enclosed (left at the post-office for you) may be from him. I have not seen him since the first day he came. I delivered yours to Mr. Evans; and, when I next see Mr. Bartram, I shall acquaint him with what you say.

I am, with great esteem and respect, dear Sir, &c.

B. FRANKLIN.

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79. TO PETER COLLINSON[1] (P. C.)

Philad^{a} Oct. 18, 1748.

Sir

I have receiv'd your several Favours of April 1. June 2. June 14, and Augt 20. and some others, with all the Books and Pamphlets you have sent at Sundry Times for the Library Company: We wish it were in our Power to do you or any Friend of yours some Service in Return for your long-continued Kindness to us.

I am pleas'd to hear that my Electrical Experim^{ts} were acceptable to the Society, and I shall be glad to see the ingenious Mr. Watson's new Piece on that Subject, when he thinks fit to publish it. Of late we have done but little here in that Way; but possibly we may resume those Enquiries this coming Winter as the approaching Peace gives us a Prospect of being more at Ease in our Minds: If anything new arises among us, I shall not fail to communicate it to you.

time in America making researches in Natural History, and afterwards published an account of his travels in the Swedish language. The work was translated into English. — ED.

[1] The original of this letter is in the possession of Mr. J. Pierpont Morgan.

Our Friend Bartram show'd me some Queries you sent him relating to the Country back of us. My Son is just return'd from a Journey to Ohio with Conrad Weiser; from their Journals etc. he may collect Answers to most of them; if John has not done it by this Vessel, I will by the next. Mr. Kalm has been much out of Town since his Arrival, and is now gone to New York. I hear he proposes to Winter here; no Service I can do him shall be wanting; but hitherto we have but little Acquaintance.

The Library Company will shortly send you a Bill. I am with great Esteem and Respect, Sir

B. FRANKLIN.

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80. TO WILLIAM STRAHAN[1] (P. C.)

Philad[a] Oct. 19, 1748.

Dear Sir

I receiv'd your Favour of April 25. with the Maps, etc. I am glad the Polybius did not come, and hope you will not have sent it when this reaches your Hands; it was intended for my Son who was then in the Army and seemed bent on a military Life, but as Peace cuts off his Prospect of Advancem[t] in that Way, he will apply himself to other Business. Enclos'd I send you his Certificate from the Governor of New York, by which he is entitled to £98. 16. 4 being his Pay; with a Letter of Attorney impowering you to receive it; I know not what the Deductions will be at the Pay Office, but desire you will give my Acc[t] Credit for the net Proceeds. I am in daily Expectation of a Bill from Virginia of £50 which I shall remit you towards the ballance, and Mr. Hall

[1] From the original in the possession of Hon: Samuel W. Pennypacker.

will acc[t] with you for those things you have sent me that are put in his Invoice. Our acc[ts] agree except that I have charg'd you £1. 9. 7. for the Ainsworth s[d] James Read the 6/7 being the Proportion of Charges on that Book, and the Bill on Geo. Rigge my acc[t] calls £15. 7. 11., yours £15. 7. 1., which is but a small variation; and I know not but yours may be right.

I have lately sent a Printing-house to Antigua, by a very sober, honest and diligent young Man, who has already (as I am inform'd by divers Hands) gain'd the Friendship of the Principal People, and is like to get into good Business. This will open another Market for your Books if you think fit to use it, for I am persuaded that if you shall send him a Parcel with any Quantity of Stationery he may write to you for, he will make you good and punctual Returns. His Name is Thomas Smith; he is the only Printer on that Island: had work'd with me here, and at my Printing-house in New York 3 or 4 Years, and always behaved extreamly well.

Mr. Thomas Osborne, Bookseller, of London, is endeavouring to open a Correspondence in the Plantations for the Sale of his Books. He has accordingly sent several Parcels, 1 to Mr. Parker of N. York, 1 to Mr. Read here, and 1 to Mr. Parks in Virginia. I have seen the Invoices to Parker and Read, and observe the Books to be very high charg'd, so that I believe they will not sell. I recommend Parker to you for Books, but he tells me he has wrote you several Letters, and in two of them sent a Guinea to purchase some small Things, but never receiv'd any Answer. Perhaps the Guineas made the Letters miscarry. He is a very honest, punctual Man, and will be in the Way of sell-

ing a great many Books: I think you might find your Acc[t] in Writing to him: Mr. Read having left off Bookselling, Osborne has wrote to me and desired me to take those Books into my hands, proposing a Correspondence etc. but I have declin'd it in a Letter *per* this Ship.

My Spouse will write to Mrs. Strahan, to whom my best Respects. By this time twelvemonth, if nothing extraordinary happens to prevent it, I hope to have the Pleasure of seeing you both in London; being, with great Esteem and Affection, d[r] Sir,

Your obliged Friend and Serv[t].

B. FRANKLIN.

P. S. You will find Mr. Geo. Smith, one of the Witnesses to the Power of Attorney, at the Pensilvania coffee-house. He goes over in this ship.

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81. TO JAMES LOGAN

Philadelphia, October 30, 1748.

SIR,

I received your favour of the 28th, with the piece on the Generation of Plants, for which I thank you. Mr. Sandin, the Swedish missionary, who gave me Wahlboom's Oration to send you (as he passed through this town from New York, where he just arrived, to Racoon Creek, where he was to be settled), I have never seen since. Mr. Kalm came to see me the day he arrived, and brought me letters from Mr. Collinson and Dr. Mitchell, both recommending him. I invited him to lodge at my house, and offered him any service in my power; but I never saw him afterwards till yes-

terday, when he told me that he had been much in the country, and at New York, since his arrival, but was now come to settle in town for the winter. To-day he dined with me; and, as I had received yours in the morning, I took occasion to ask him if he had not yet seen Mr. Logan. He said, no; that he had once been out with his countryman, Mr. Kock, proposing to wait on you as they returned; but it proved later in the evening than they had expected, and he thought a visit then would be unseasonable, but proposed soon to pay his respects to you. Possibly he might at that time have the packet for you at Naglee's. I did not ask him about that. Inquiring of him what was become of Mr. Sandin, he told me that soon after he got to Racoon Creek, he was taken with the fever and ague, which was followed by several other disorders, that constantly harassed him, and at length carried him off, just as Kalm arrived here, who, hearing that he was dangerously ill, hurried down to see him, but found him dead.

Sandin had a family with him, and, when here, was in haste to get to his settlement, but might intend to wait on you when he should come again to Philadelphia. Kalm, I suppose, might be in haste to see as much of the country as he could, and make his journey to New York, before cold weather came on. I mention these things so particularly, that you may see you have not been purposely avoided by both these gentlemen, as you seem to imagine. I did not let Kalm know that you had mentioned him to me in your letter. I shall write to Mr. Hugh Jones, as you desire. I am, Sir, &c. B. FRANKLIN.

82. TO JAMES READ

December 5, 1748.

Dear Sir: — 'Tis some time since I received a considerable account against you from England. An unwillingness to give you concern has hitherto prevented my mentioning it to you. By comparing the moderation and long forbearance toward you of Mr. Strahan, to whom you owe so much, with your treatment of an old friend in distress, bred up with you under the same roof, and who owes you so little, you may perceive how much you have misunderstood yourself. 'Tis with regret I now acquaint you that (even while you were talking to me in that lofty strain yesterday concerning Mr. Grace) I had in my pocket the power of attorney to recover of you £131. 16s. 4d. sterling, a balance long due. It will be your own fault if it comes to be known, for I have mentioned it to nobody. And I now ask you how you would in your own case like those petty pieces of practice you so highly contended for, of summoning a day only before the court, lest the cause should be made up and fees thereby prevented; and of carrying on a suit privately against a man in another county than that in which he lives and may every day be found, getting a judgement by default, and taking him by surprise with an execution when he happens to come where you have sued him, etc., etc. I should be glad to have that account against my friend Grace, with all the little charges you have so cunningly accumulated on it, that I may communicate it to him; and doubt not but he will immediately order you payment. It appears not unlikely to me, that he may soon get through all his difficulties, and as I

know him good-natured and benevolent to a high degree, so I believe he will be above resenting the ill-treatment he has received from some that are now so fond of insulting him, and from whom he might have expected better things. But I think you would do well not to treat others in the same manner, for fortune's wheel is often turning, and all are not alike forgiving. I request, as soon as it suits your convenience, that you will take the proper measures with regard to Mr. Strahan's account, and I am your humble servant,

B. FRANKLIN.

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83. ADVICE TO A YOUNG TRADESMAN (1748)

TO MY FRIEND, A. B.:

As you have desired it of me, I write the following hints, which have been of service to me, and may, if observed, be so to you.

Remember, that *time* is money. He that can earn ten shillings a day by his labour, and goes abroad, or sits idle, one half of that day, though he spends but sixpence during his diversion or idleness, ought not to reckon *that* the only expense; he has really spent, or rather thrown away, five shillings besides.

Remember, that *credit* is money. If a man lets his money lie in my hands after it is due, he gives me the interest, or so much as I can make of it during that time. This amounts to a considerable sum where a man has good and large credit, and makes good use of it.

Remember, that money is of the prolific, generating nature.

Money can beget money, and its offspring can beget more, and so on. Five shillings turned is six, turned again it is seven and three-pence, and so on till it becomes an hundred pounds. The more there is of it, the more it produces every turning, so that the profits rise quicker and quicker. He that kills a breeding sow, destroys all her offspring to the thousandth generation. He that murders a crown, destroys all that it might have produced, even scores of pounds.

Remember, that six pounds a year is but a groat a day. For this little sum (which may be daily wasted either in time or expense unperceived) a man of credit may, on his own security, have the constant possession and use of an hundred pounds. So much in stock, briskly turned by an industrious man, produces great advantage.

Remember this saying, *The good paymaster is lord of another man's purse.* He that is known to pay punctually and exactly to the time he promises, may at any time, and on any occasion, raise all the money his friends can spare. This is sometimes of great use. After industry and frugality, nothing contributes more to the raising of a young man in the world than punctuality and justice in all his dealings; therefore never keep borrowed money an hour beyond the time you promised, lest a disappointment shut up your friend's purse for ever.

The most trifling actions that affect a man's credit are to be regarded. The sound of your hammer at five in the morning, or nine at night, heard by a creditor, makes him easy six months longer; but, if he sees you at a billiard-table, or hears your voice at a tavern, when you should be at work, he sends for his money the next day; demands it, before he can receive it, in a lump.

It shows, besides, that you are mindful of what you owe; it makes you appear a careful as well as an honest man, and that still increases your credit.

Beware of thinking all your own that you possess, and of living accordingly. It is a mistake that many people who have credit fall into. To prevent this, keep an exact account for some time, both of your expenses and your income. If you take the pains at first to mention particulars, it will have this good effect: you will discover how wonderfully small, trifling expenses mount up to large sums, and will discern what might have been, and may for the future be saved, without occasioning any great inconvenience.

In short, the way to wealth, if you desire it, is as plain as the way to market. It depends chiefly on two words, *industry* and *frugality*; that is, waste neither *time* nor *money*, but make the best use of both. Without industry and frugality nothing will do, and with them every thing. He that gets all he can honestly, and saves all he gets (necessary expenses excepted), will certainly become *rich*, if that Being who governs the world, to whom all should look for a blessing on their honest endeavours, doth not, in his wise providence, otherwise determine.

AN OLD TRADESMAN.

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84. TO WILLIAM STRAHAN [1] (P. C.)

Sir. Philad[a], April 29, 1749.

I suppose Mr. Hall will acquaint you that I have settled with him for those Things you sent me that were charg'd in his Invoice. Enclos'd are the following Bills, viz.

[1] From the original in the collection of Hon: Samuel W. Pennypacker.

	£	s.	d.
Richard Graham's	22.	0.	0
James McNab's	3.	10.	0
Hammond & Co.	2.	13.	7
"	8.	8.	0
"	9.	0.	0
	45.	12.	7

which, with my son's Wages and a Remittance I order'd you from the W. Indies, and suppose may be in your Hands before this Time, will, I imagine, near ballance our Acct.

In a former Letter I promis'd to write you largely about your Affairs with Mr. Read, and the Measures taken to recover your Money. Before I received your Power of Attorney and Acct there was a Misunderstanding between us, occasion'd by his endeavouring to get a small Office from me (Clerk to the Assembly), which I took the more amiss, as we had always been good Friends, and the Office could not have been of much Service to him, the Salary being small; but valuable to me, as a means of securing the Publick Business to our Printing-House. So as we were not on Speaking Terms when your Acct came to hand, and the Influence I had over him as a Friend was become little or nothing, it was some Time before I mention'd it to him. But at length the Ice was broke in the following Manner. I have a Friend in the Country that assisted me when I first set up, whose Affairs have lately been in some Disorder (occasion'd chiefly by his too great good Nature), his Creditors coming at the same time in a Crowd upon him. I had made up with several of them for him, but Mr. Read being employ'd in one small Case (a Debt of £12 only) carry'd on (by some Contrivance in the Law which I don't understand) a private Action against him, by summoning him in this

County when he lives in another, and obtain'd a Judgment against him without his or my knowing anything of the matter, and then came to me, knowing I had a great Affection for Mr. Grace, and in a very insulting Manner ask'd: "What shall I do with your Friend Grace? I have got Judgment against him, and must take out Execution if the Debt is not immediately satisfy'd." etc. Upon enquiring into the Matter and understanding how it had been carry'd on, I grew a little warm, blam'd his Practice as irregular and unfair, and his Conduct towards Mr. Grace, to whom his Father and Family had been much oblig'd, as ungrateful; and said that since he look'd on me as Mr. Grace's Friend he should have told me of the Action before he commenced it, that I might have prevented it, and sav'd him the Charges arising on it, and his not doing so could be only from a View to the small Fees it produced him, in carrying it thro' all the Courts, etc. He justify'd his Practice, and said it was legal and frequent; deny'd that his Father or Family were under any Obligations to Mr. Grace; alledged that Grace had us'd him ill in employing another Lawyer in some of his own Actions, when at the same Time he owed him near Five Pounds; and added haughtily that he was determin'd to sue Grace on his own acct. if not speedily paid, and, so saying, left me very abruptly. I thought this a good Opportunity of introducing your Affair, imagining that a Consciousness of his ill Behaviour to me and my Friend would pique him to make immediate Payment. Accordingly I wrote him a Letter the next Day, of which I send you the rough Draft enclos'd, together with his Answer; since which several other Letters pass'd on the same Subject of which I have no Copies. All I insisted on, since he declared his Inability

to pay at present, was, that he should give you his Bond, so that in Case of his Death you might come in for Payment prior to common Creditors, and that he should allow you Interest from the Time the Money became due in the common Course of Payments. He agreed to give his Bond, but it has been delay'd from time to time till this Day, when on my Writing to him again to know what Account I should send you, I receiv'd from him the enclosed Billet in which he refuses to allow Interest for the Time past. As he cannot be compell'd to pay Interest on a Book Acc^{t}., I desired him then to fill up and execute a Bond to you for the Principal, and he might settle the Affair of the Interest with you hereafter. Accordingly he has just now done it, so that Interest will arise for the Time to come; but as he threatens to pay very speedily, and I am persuaded may easily do it by the help of his Relations, who are wealthy, I hope you will not have much Interest to receive. He has a great many good Qualities for which I love him; but I believe he is, as you say, sometimes a little crazy. If the Debt were to me I could not sue him; so I believe you will not desire me to do it for you; but he shall not want Pressing (tho' I scarce ever dun for myself), because I think his Relations may and will help him if properly apply'd to; and Mr. Hall thinks with me, that urging him frequently may make him more considerate, and induce him to abridge some of his unnecessary Expences. The Bond is made payable in a Month from the Day; and, for your Encouragement, I may add that notwithstanding what he affects to say of the Badness of his Circumstances I look on the Debt to be far from desperate.

Please to send me Chambers' Dictionary, the best Edition, and charge it in Mr. Hall's Invoice. My Compliments to

good Mrs. Strahan. My Dame writes to her. I am, with great Esteem and Affection, dear Sir,

Your most obliged Friend and humble Servt.

B. FRANKLIN.

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85. TO WILLIAM STRAHAN

Philadelphia, July 3, 1749.

Dear Sir: — I wrote to you very fully *per* Arthur concerning your affair with Mr. Read, and shall have nothing to add on that subject till I hear further from you. I acquainted you that he had given his bond for the balance due to you, and that I do not look on the debt as desperate.

Enclosed I send you several second bills, having sent the firsts *per* Arthur. I hope to hear *per* next ship that you have received my son's pay, since I understand there was a Parliament in March last, for a sum to defray all the charges of the Canada expedition. If it should prove otherwise, I will send the balance from hence in the fall, and make you satisfaction for the delay and disappointment.

The Library Company send to Mr. Collinson by this ship for a parcel of books. I have recommended you to him on this occasion, and hope you will have the selling of them. If you should, and the Company judge your charges reasonable, I doubt not but you will keep their custom.

I fear I shall not have the pleasure of seeing you this year, perhaps the next I may.

Please to send me a book lately advertised; I think it is called A Collection of Sentences, Wise Sayings, etc., by some officer about the Parliament House; his name I have forgot.

With all our best respects to you and yours, I am, dear sir, your most obliged friend and servant,

B. FRANKLIN.

What is the price of printing paper in London?

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86. TO GEORGE WHITEFIELD[1]

Philadelphia, July 6, 1749.

DEAR SIR

Since your being in England, I have received two of your favours and a box of books to be disposed of. It gives me great pleasure to hear of your welfare and that you purpose soon to return to America.

We have no news here worth writing to you. The affair of the building remains in *statu quo*, there having been no new application to the Assembly about it, or anything done in consequence of the former.

I have received no money on your account from Mr. Thanklin, or from Boston. Mrs. Read and your other friends here, in general, are well, and will rejoice to see you again.

I am glad to hear that you have frequent opportunities of preaching among the great. If you can gain them to a good and exemplary life, wonderful changes will follow in the manners of the lower ranks; for *ad exemplum regis*, etc. On this principle, Confucius, the famous Eastern reformer, proceeded. When he saw his country sunk in vice, and wickedness of all kinds triumphant, he applied himself first to the grandees; and having, by his doctrine, won *them* to the cause of virtue, the commons followed in multitudes.

[1] From Bigelow, Vol. II, p. 150.

The mode has a wonderful influence on mankind; and there are numbers who, perhaps, fear less the being in hell, than out of the fashion. Our most western reformations began with the ignorant mob; and when numbers of them were gained, interest and party views drew in the wise and great. Where both methods can be used, reformations are likely to be more speedy. O that some method could be found to make them lasting! He who discovers that will, in my opinion, deserve more, ten thousand times, than the inventor of the longitude.

My wife and family join in the most cordial salutations to you and good Mrs. Whitefield.

I am, dear Sir, your very affectionate friend, and most obliged humble Servant

BENJAMIN FRANKLIN.

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87. TO MRS. ABIAH FRANKLIN, AT BOSTON[1]

Philadelphia, September 7, 1749.

HONOURED MOTHER,

We received your kind letter by this post, and are glad you still continue to enjoy such a share of health. Cousin Josiah and his spouse arrived hearty and well last Saturday noon. I met them the evening before at Trenton, thirty miles off, and accompanied them to town. They went into their own house on Monday, and I believe will do very well, for he seems bent on industry, and she appears a discreet, notable young woman. My wife has been to see them every day, calling in as she passes by; and I suspect has fallen in

[1] From "A Collection of the Familiar Letters of Benjamin Franklin," Boston (Sparks), 1833, p. 15.

love with our new cousin; for she entertains me a deal, when she comes home, with what cousin Sally does, and what cousin Sally says, what a good contriver she is, and the like.

I believe it might be of service to me, in the matter of getting in my debts, if I were to make a voyage to London; but I have not yet determined on it in my own mind, and think I am grown almost too lazy to undertake it.

The Indians are gone homewards loaded with presents. In a week or two the treaty with them will be printed, and I will send you one. My love to brother and sister Mecom, and to all inquiring friends. I am your dutiful son,

B. FRANKLIN.

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88. TO MRS. ABIAH FRANKLIN[1]

Philadelphia, October 16, 1749.

HONOURED MOTHER,

This has been a busy day with your daughter, and she is gone to bed much fatigued and cannot write.

I send you enclosed one of our new Almanacs. We print them early, because we send them to many places far distant. I send you also a moidore enclosed, which please to accept towards chaise hire, that you may ride warm to meetings this winter. Pray tell us what kind of a sickness you have had in Boston this summer. Besides the measles and flux, which have carried off many children, we have lost some grown persons, by what we call the *Yellow Fever;* though that is almost, if not quite over, thanks to God, who has preserved all our family in perfect health.

[1] From "A Collection of Familiar Letters of Benjamin Franklin," Boston, 1833, p. 16.

Here are cousins Coleman, and two Folgers, all well. Your granddaughter is the greatest lover of her book and school, of any child I ever knew, and is very dutiful to her mistress as well as to us.

I doubt not but brother Mecom will send the collar, as soon as he can conveniently. My love to him, sister, and all the children. I am your dutiful son.

B. FRANKLIN.

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89. TO WILLIAM STRAHAN[1] (P. C.)

DEAR SIR Philad^{a} Oct. 23, 1749.

I hope before this can reach you, your Parliament will have met and ordered Payment of what has been so long due on Acc^{t} of the Canada Expedition. In the Settling our Acc^{t} I will make you a reasonable Allowance for the Disappointment occasioned by the Delay of my Son's Bill.

J. Read has remov'd into a House of less Rent, which I was well pleas'd with. I have had no Talk with him lately about your Affair, but still hope for the best; and it shall not be long before I take an Opportunity of urging him to discharge some Part of the Bond.

I am now engag'd in a new public Affair as you will see by the enclos'd, which I hope with God's Blessing will very soon be in good Train.

I have laid aside my Intention of seeing England, and believe I shall execute it next year, if nothing extraordinary occurs, for which your Conversation is not one of the least Pleasures I propose to myself.

I hope this will find you and good Mrs. Strahan safe re-

[1] This letter is in the possession of Mr. Alfred T. White, Brooklyn.

turn'd from your northern Journey. I am just setting out on one, and I have only time to add, that I am, with great Esteem and sincere Affection, Dr Sir,

Your most obliged
humbl^e^ Servt

B. FRANKLIN.

P. S. Please to give my Acc^t^ C^r^ for what you receave by the enclos'd Power of Attorney. And let me know the Sum that I may pay the Person here.

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90. PREFACE TO POOR RICHARD IMPROVED: 1750

TO THE READER

The Hope of acquiring lasting Fame, is, with many Authors, a most powerful Motive to Writing. Some, tho' few, have succeeded; and others, tho' perhaps fewer, may succeed hereafter, and be as well known to Posterity by their Works, as the Antients are to us. We *Philomaths*, as ambitious of Fame as any other Writers whatever, after all our painful Watchings and laborious Calculations, have the constant Mortification to see our Works thrown by at the End of the Year, and treated as mere waste Paper. Our only Consolation is, that short-lived as they are, they outlive those of most of our Contemporaries.

Yet, condemned to renew the *Sisyphean* Toil, we every Year heave another heavy Mass up the Muses Hill, which never can the Summit reach, and soon comes tumbling down again.

This, Kind Reader, is my seventeenth Labour of the Kind. Thro' thy continued Good-will, they have procur'd me, if

no *Bays*, at least *Pence;* and the latter is perhaps the better of the two; since 'tis not improbable that a Man may receive more solid Satisfaction from *Pudding*, while he is *living*, than from *Praise*, after he is *dead*.

In my last, a few Faults escap'd; some belong to the Author, but most to the Printer: Let each take his Share of the Blame, confess, and amend for the future. In the second Page of AUGUST I mention'd 120 as the next perfect Number to 28; it was wrong, 120 being no perfect Number; the next to 28 I find to be 496. The first is 6; let the curious Reader, fond of mathematical Questions, find the fourth. In the 2d Page of *March*, in some Copies, the Earth's Circumference was said to be nigh 4000, instead of 24000 Miles, the Figure 2 being omitted at the Beginning. This was Mr. Printer's Fault; who being also somewhat niggardly of his Vowels, as well as profuse of his Consonants, put in one Place, among the Poetry, *mad* instead of *made*, and in another *wrapp'd* instead of *warp'd;* to the utter demolishing of all Sense in those Lines, leaving nothing standing but the Rhime. These and some others, of the like kind, let the Readers forgive, or rebuke him for, as to their Wisdom and Goodness shall seem meet: For in such Cases the Loss and Damage is chiefly to the Reader, who, if he does not take my Sense at first Reading, 'tis odds he never gets it; for ten to one he does not read my Works a second Time.

Printers indeed should be very careful how they omit a Figure or a Letter: For by such Means sometimes a terrible Alteration is made in the Sense. I have heard, that once, in a new Edition of the *Common Prayer*, the following Sentence, *We shall all be changed in a Moment, in the Twinkling of an*

Eye; by the Omission of a single Letter, became, *We shall all be hanged in a Moment,* &c., to the no small Surprize of the first Congregation it was read to.

May this Year prove a happy One to Thee and Thine, is the hearty Wish of, Kind Reader,

Thy obliged Friend

R. SAUNDERS.

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91. TO JARED ELIOT[1] (Y.)

SIR,

I have perused your two Essays on Field Husbandry,[2] and think the publick may be much benefited by them; but, if the Farmers in your neighbourhood are as unwilling to leave the beaten road of their Ancestors as they are near me, it will be difficult to persuade them to attempt any improvement. Where the cash is to be laid out on a probability of a return, they are very Averse to the running any risque at all, or even Expending freely, where a Gentleman of a more Publick Spirit has given them Ocular Demonstration of the Success.

About eighteen months ago, I made a Purchase of about three hundred Acres of Land near Burlington, and resolved to improve it in the best and Speediest manner, that I might be Enabled to indulge myself in that kind of life, which was most agreeable. My fortune, (thank God,) is such that I can enjoy all the necessaries and many of the Indulgencies of Life; but I think that in Duty to my children I ought so to manage, that the profits of my Farm may Ballance the loss

[1] The date of this letter is uncertain but it must have been written in 1749. The original is in the Library of Yale University.

[2] "An Essay upon Field Husbandry in New England, as it is or may be ordered," by Jared Eliot, M.A., New London, 1748. A continuation of the Essay appeared in 1749. — ED.

my Income will Suffer by my retreat to it. In order to this, I began with a Meadow, on which there had never been much Timber, but it was always overflowed. The Soil of it is very fine, and black about three-foot; then it comes to a fatt bluish Clay; of this deep meadow I have about eighty acres, forty of which had been Ditched and mowed. The Grass which comes in first after Ditching is Spear-grass and white clover; but the weeds are to be mowed four or five years before they will be Subdued, as the Vegetation is very Luxuriant.

This meadow had been ditched and planted with Indian Corn, of which it produced above Sixty Bushells per acre. I first Scoured up my Ditches and Drains, and took off all the Weeds; then I ploughed it, and Sowed it with Oats in the last of May. In July I mowed them down, together with the Weeds, which grew plentifully among them, and they made good Fodder. I immediately ploughed it again, and kept harrowing till there was an appearance of Rain; and, on the 23d of August, I sowed near thirty acres with red Clover and Herd-grass, allowing six quarts of Herd-grass and four pounds of red clover to an acre in most parts of it; in other parts, four quarts Herd-grass and three pounds red clover. The red clover came up in four days, and the Herd-grass in six days; and I now find, that, where I allowed the most seed, it protects itself the better against the Frost. I also Sowed an Acre with twelve pound of red clover, and it does well. I Sowed an Acre more with two bushells of Rye-Grass Seed and five pound of Red Clover; the Rye-Grass Seed failed, and the Red Clover heaves out much for want of being thicker. However, in March next I intend to throw in six pound more of Red Clover, as the Ground

is open and loose. As these Grasses are represented not durable, I have sown two bushells of the Sweeping of Hay-lofts (where the best Hay was used), well Riddled, per Acre, supposing that the Spear-Grass and white clover seed would be more equally scattered when the other shall fail.

What surprized me was to find, that the Herd-grass, whose Roots are small and spread near the Surface, should be less affected by the Frost than the red Clover, whose Roots I measured in the last of October, and found that many of their Tap roots penetrated five Inches, and from its Sides threw out near thirty Horizontal roots, some of which were Six inches long, and branched. From the figure of this root, I flattered myself, that it would endure the heaving of the frost; but I now see, that wherever it is thin Sown it is generally hove so far out, as that but a few of the horizontal and a small part of the Tap roots remain covered, and I fear will not recover. Take the whole together, it is well matted, and looks like a green corn-field.

I have about ten Acres more of this Ground ready for Seed in the Spring, but expect to combat with the Weeds a year or two. That sown in August I believe will rise so soon in the Spring, as to suppress them in a great measure.

My next undertaking was a Round Pond of twelve Acres. Ditching round it, with a large drain through the middle, and other smaller Drains, laid it perfectly dry. This, having first taken up all the rubbish, I ploughed up, and harrowed it many times over, till it was smooth. Its soil is blackish; but, in about a foot or ten inches, you come to a sand of the same color with the upland. From the Birch that grew upon it, I took it to be of a Cold Nature, and therefore I procured a Grass which would best suit that kind of Ground, inter-

mixt with many others, that I might thereby see which suited it best. On the eighth 7ber, I laid it down with Rye, which being harrowed in, I threw in the following grass seed; a bushell of Salem Grass or Feather-Grass, half a bushell of Timothy or Herd-Grass, half a bushell of Rye-Grass, a peck of Burden-grass or blue bent, and two Pints of Red Clover per Acre, (all the Seed in the Chaff, except the Clover,) and bushed them in. I could wish they had been clean, as they would have come up sooner, and been better grown before the Frost; and I have found by Experiment, that a bushell of clean Chaff of Timothy or Salem Grass will yield five quarts of Seed. The Rye looks well, and there is abundance of Timothy or Salem Grass come up amongst it; but it is yet small, and in that state there is scarce any knowing those Grasses apart. I expect from the sands lying so near the surface, that it will suffer much in dry Weather but if it will produce good,[1]

B. FRANKLIN.

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92. PROPOSALS RELATING TO THE EDUCATION OF YOUTH IN PENSILVANIA. PHILADELPHIA: PRINTED IN THE YEAR, MDCCXLIX[2] (A. P. S.)

ADVERTISEMENT TO THE READER.

It has long been regretted as a Misfortune to the Youth of this Province, that we have no ACADEMY, in which they might receive the Accomplishments of a regular Education.

[1] The letter is unfinished. — ED.

[2] This tract was illustrated by copious notes extracted from a number of pedagogical writings. As these notes are incorporated to a considerable extent in "Observations relative to the Intentions of the Original Founders

The following Paper of Hints towards forming a Plan for that Purpose, is so far approv'd by some publick-spirited Gentlemen, to whom it has been privately communicated, that they have directed a Number of Copies to be made by the Press, and properly distributed, in order to obtain the Sentiments and Advice of Men of Learning, Understanding, and Experience in these Matters; and have determined to use their Interest and best Endeavours, to have the Scheme, when compleated, carried gradually into Execution; in which they have Reason to believe they shall have the hearty

of the Academy in Philadelphia" (q.v.), it has been deemed unnecessary to reprint them here.

The following note, however, presents Franklin's appreciation of the writers upon pedagogy whose works were read and quoted by him: —

"AUTHORS quoted in this PAPER

1. The famous Milton, whose Learning and Abilities are well known, and who had practised some Time the Education of Youth, so could speak from Experience.

2. The great Mr. *Locke* who wrote a Treatise on Education, well known, and much esteemed, being translated into most of the modern Languages of *Europe*.

3. *Dialogues on Education.* 2 vols. Octavo, that are much esteem'd, having had two Editions in 3 Years. Suppos'd to be wrote by the ingenious Mr. *Hutcheson* (Author of *A Treatise on the Passions*, and another on the *Ideas of Beauty and Virtue*) who has had much Experience in Educating of Youth, being a Professor in the College at Glasgow, etc.

4. The learned Mr. *Obadiah Walker*, who had been many Years a Tutor to young Noblemen, and wrote a Treatise *on the Education of a young Gentleman;* of which the Fifth Edition was printed 1687.

5. The much admired Mons. *Rollin*, whose whole Life was spent in a College; and wrote 4 vols. on Education, under the Title of, *The Method of Teaching and Studying the Belles Lettres;* which are translated into *English*, *Italian*, and most of the modern Languages.

6. The learned and ingenious Dr. *George Turnbull*, Chaplain to the present Prince of *Wales;* who has had much Experience in the Educating of Youth, and publish'd a Book, Octavo, intituled, *Observations on Liberal Education, in all its Branches*, 1742.

With some others." — ED.

Concurrence and Assistance of many who are Wellwishers to their Country. Those who incline to favour the Design with their Advice, either as to the Parts of Learning to be taught, the Order of Study, the Method of Teaching, the Œconomy of the School, or any other Matter of Importance to the Success of the Undertaking, are desired to communicate their Sentiments as soon as may be, by Letter directed to B. FRANKLIN, *Printer*, in PHILADELPHIA."

PROPOSALS

The good Education of Youth has been esteemed by wise Men in all Ages, as the surest Foundation of the Happiness both of private Families and of Commonwealths. Almost all Governments have therefore made it a principal Object of their Attention, to establish and endow with proper Revenues, such Seminaries of Learning, as might supply the succeeding Age with Men qualified to serve the Publick with Honour to themselves, and to their Country.

Many of the first Settlers of these Provinces were Men who had received a good Education in *Europe*, and to their Wisdom and good Management we owe much of our present Prosperity. But their Hands were full, and they could not do all Things. The present Race are not thought to be generally of equal Ability: For though the *American* Youth are allow'd not to want Capacity; yet the best Capacities require Cultivation, it being truly with them, as with the best Ground, which unless well tilled and sowed with profitable Seed, produces only ranker Weeds.

That we may obtain the Advantages arising from an Increase of Knowledge, and prevent as much as may be the mischievous Consequences that would attend a general

Ignorance among us, the following *Hints* are offered towards forming a Plan for the Education of the Youth of *Pennsylvania*, viz.

It is propos'd,

THAT some Persons of Leisure and publick Spirit apply for a CHARTER, by which they may be incorporated, with Power to erect an ACADEMY for the Education of Youth, to govern the same, provide Masters, make Rules, receive Donations, purchase Lands, etc., and to add to their Number, from Time to Time such other Persons as they shall judge suitable.

That the Members of the Corporation make it their Pleasure, and in some Degree their Business, to visit the Academy often, encourage and countenance the Youth, countenance and assist the Masters, and by all Means in their Power advance the Usefulness and Reputation of the Design; that they look on the Students as in some Sort their Children, treat them with Familiarity and Affection, and, when they have behav'd well, and gone through their Studies, and are to enter the World, zealously unite, and make all the Interest that can be made to establish them, whether in Business, Offices, Marriages, or any other Thing for their Advantage, preferably to all other Persons whatsoever even of equal Merit.

And if Men may, and frequently do, catch such a Taste for cultivating Flowers, for Planting, Grafting, Inoculating, and the like, as to despise all other Amusements for their Sake, why may not we expect they should acquire a Relish for that *more useful* Culture of young Minds. *Thompson* says,

> "'T is Joy to see the human Blossoms blow,
> When infant Reason grows apace, and calls

For the kind Hand of an assiduous Care.
Delightful Task! to rear the tender Thought,
To teach the young Idea how to shoot;
To pour the fresh Instruction o'er the Mind,
To breathe th' enliv'ning Spirit, and to fix
The generous Purpose in the glowing Breast."

That a House be provided for the ACADEMY, if not in the Town, not many Miles from it; the Situation high and dry, and if it may be, not far from a River, having a Garden, Orchard, Meadow, and a Field or two.

That the House be furnished with a Library (if in the Country, if in the Town, the Town Libraries may serve) with Maps of all Countries, Globes, some mathematical Instruments, an Apparatus for Experiments in Natural Philosophy, and for Mechanics; Prints, of all Kinds, Prospects, Buildings, Machines, &c.

That the Rector be a Man of good Understanding, good Morals, diligent and patient, learn'd in the Languages and Sciences, and a correct pure Speaker and Writer of the *English* Tongue; to have such Tutors under him as shall be necessary.

That the boarding Scholars diet together, plainly, temperately, and frugally.

That, to keep them in Health, and to strengthen and render active their Bodies, they be frequently exercis'd in Running, Leaping, Wrestling, and Swimming, &c.

That they have peculiar Habits to distinguish them from other Youth, if the Academy be in or near the Town; for this, among other Reasons, that their Behaviour may be the better observed.

As to their STUDIES, it would be well if they could be

taught *every Thing* that is useful, and *every Thing* that is ornamental: But Art is long, and their Time is short. It is therefore propos'd that they learn those Things that are likely to be *most useful* and *most ornamental.* Regard being had to the several Professions for which they are intended.

All should be taught to write a *fair Hand*, and swift, as that is useful to All. And with it may be learnt something of *Drawing*, by Imitation of Prints, and some of the first Principles of Perspective.

Arithmetick, *Accounts*, and some of the first Principles of *Geometry* and *Astronomy.*

The *English* Language might be taught by Grammar; in which some of our best Writers, as *Tillotson*, *Addison*, *Pope*, *Algernoon Sidney*, *Cato's Letters*, &c., should be Classicks: the *Stiles* principally to be cultivated, being the *clear* and the *concise.* Reading should also be taught, and pronouncing, properly, distinctly, emphatically; not with an even Tone, which *under-does*, nor a theatrical, which *over-does* Nature.

To form their Stile they should be put on Writing Letters to each other, making Abstracts of what they read; or writing the same Things in their own Words; telling or writing Stories lately read, in their own Expressions. All to be revis'd and corrected by the Tutor, who should give his Reasons, and explain the Force and Import of Words, &c.

To form their Pronunciation, they may be put on making Declamations, repeating Speeches, delivering Orations &c.; The Tutor assisting at the Rehearsals, teaching, advising, correcting their Accent, &c.

But if History be made a constant Part of their Reading, such as the Translations of the *Greek* and *Roman* Historians,

and the modern Histories of ancient *Greece* and *Rome*, &c. may not almost all Kinds of useful Knowledge be that Way introduc'd to Advantage, and with Pleasure to the Student? As

GEOGRAPHY, by reading with Maps, and being required to point out the Places *where* the greatest Actions were done, to give their old and new Names, with the Bounds, Situation, Extent of the Countries concern'd, &c.

CHRONOLOGY, by the Help of *Helvicus* or some other Writer of the Kind, who will enable them to tell *when* those Events happened; what Princes were Cotemporaries, what States or famous Men flourish'd about that Time, &c. The several principal Epochas to be first well fix'd in their Memories.

ANTIENT CUSTOMS, religious and civil, being frequently mentioned in History, will give Occasion for explaining them; in which the Prints of Medals, Basso-Relievos, and antient Monuments will greatly assist.

MORALITY, by descanting and making continual Observations on the Causes of the Rise or Fall of any Man's Character, Fortune, Power &c. mention'd in History; the Advantages of Temperance, Order, Frugality, Industry, Perseverance &c. &c. Indeed the general natural Tendency of Reading good History must be, to fix in the Minds of Youth deep Impressions of the Beauty and Usefulness of Virtue of all Kinds, Publick Spirit, Fortitude, &c.

History will show the wonderful Effects of ORATORY, in governing, turning and leading great Bodies of Mankind, Armies, Cities, Nations. When the Minds of Youth are struck with Admiration at this, then is the Time to give them the Principles of that Art, which they will study with Taste

and Application. Then they may be made acquainted with the best Models among the antients, their Beauties being particularly pointed out to them. Modern Political Oratory being chiefly performed by the Pen and Press, its Advantages over the Antient in some Respects are to be shown; as that its Effects are more extensive, more lasting, &c.

History will also afford frequent Opportunities of showing the Necessity of a *Publick Religion*, from its Usefulness to the Publick; the Advantage of a Religious Character among private Persons; the Mischiefs of Superstition, &c. and the Excellency of the CHRISTIAN RELIGION above all others antient or modern.

History will also give Occasion to expatiate on the Advantage of Civil Orders and Constitutions; how Men and their Properties are protected by joining in Societies and establishing Government; their Industry encouraged and rewarded, Arts invented, and Life made more comfortable: The Advantages of *Liberty*, Mischiefs of *Licentiousness*, Benefits arising from good Laws and a due Execution of Justice, &c. Thus may the first Principles of sound *Politicks* be fix'd in the Minds of Youth.

On *Historical* Occasions, Questions of Right and Wrong, Justice and Injustice, will naturally arise, and may be put to Youth, which they may debate in Conversation and in Writing. When they ardently desire Victory, for the Sake of the Praise attending it, they will begin to feel the Want, and be sensible of the Use of *Logic*, or the Art of Reasoning to *discover* Truth, and of Arguing to *defend* it, and *convince* Adversaries. This would be the Time to acquaint them with the Principles of that Art. Grotius, Puffendorff, and some

other Writers of the same Kind, may be used on these Occasions to decide their Disputes. Publick Disputes warm the Imagination, whet the Industry, and strengthen the natural Abilities.

When Youth are told, that the Great Men whose Lives and Actions they read in History, spoke two of the best Languages that ever were, the most expressive, copious, beautiful; and that the finest Writings, the most correct Compositions, the most perfect Productions of human Wit and Wisdom, are in those Languages, which have endured Ages, and will endure while there are Men; that no Translation can do them Justice, or give the Pleasure found in Reading the Originals; that those Languages contain all Science; that one of them is become almost universal, being the Language of Learned Men in all Countries; that to understand them is a distinguishing Ornament, &c. they may be thereby made desirous of learning those Languages, and their Industry sharpen'd in the Acquisition of them. All intended for Divinity, should be taught the *Latin* and *Greek;* for Physick, the *Latin*, *Greek*, and *French;* for Law, the *Latin* and *French;* Merchants, the *French*, *German*, and *Spanish:* And though all should not be compell'd to learn *Latin*, *Greek*, or the modern foreign Languages; yet none that have an ardent Desire to learn them should be refused; their *English*, Arithmetick and other Studies absolutely necessary, being at the same Time not neglected.

If the new *Universal History* were also read, it would give a *connected* Idea of human Affairs, so far as it goes, which should be follow'd by the best modern Histories, particularly of our Mother Country; then of these Colonies; which should be accompanied with Observations on their Rise,

Encrease, Use to *Great Britain*, Encouragements, Discouragements, etc. the Means to make them flourish, secure their Liberties, &c.

With the History of Men, Times, and Nations, should be read at proper Hours or Days, some of the best *Histories of Nature*, which would not only be delightful to Youth, and furnish them with Matter for their Letters, &c. as well as other History; but afterwards of great Use to them, whether they are Merchants, Handicrafts, or Divines; enabling the first the better to understand many Commodities, Drugs, &c.; the second to improve his Trade or Handicraft by new Mixtures, Materials, &c., and the last to adorn his Discourses by beautiful Comparisons, and strengthen them by new Proofs of Divine Providence. The Conversation of all will be improved by it, as Occasions frequently occur of making Natural Observations, which are instructive, agreeable, and entertaining in almost all Companies. *Natural History* will also afford Opportunities of introducing many Observations, relating to the Preservation of Health, which may be afterwards of great Use. *Arbuthnot* on Air and *Aliment*, *Sanctorius* on Perspiration, *Lemery* on Foods, and some others, may now be read, and a very little Explanation will make them sufficiently intelligible to Youth.

While they are reading Natural History, might not a little *Gardening*, *Planting*, *Grafting*, *Inoculating*, etc., be taught and practised; and now and then Excursions made to the neighbouring Plantations of the best Farmers, their Methods observ'd and reason'd upon for the Information of Youth? The Improvement of Agriculture being useful to all, and Skill in it no Disparagement to any.

The History of *Commerce*, of the Invention of Arts, Rise

of Manufactures, Progress of Trade, Change of its Seats, with the Reasons, Causes, &c., may also be made entertaining to Youth, and will be useful to all. And this, with the Accounts in other History of the prodigious Force and Effect of Engines and Machines used in War, will naturally introduce a Desire to be instructed in *Mechanicks*, and to be inform'd of the Principles of that Art by which weak Men perform such Wonders, Labour is sav'd, Manufactures expedited, &c. This will be the Time to show them Prints of antient and modern Machines, to explain them, to let them be copied, and to give Lectures in Mechanical Philosophy.

With the whole should be constantly inculcated and cultivated, that *Benignity of Mind*, which shows itself in *searching for* and *seising* every Opportunity *to serve* and *to oblige;* and is the Foundation of what is called GOOD BREEDING; highly useful to the Possessor, and most agreeable to all.

The Idea of what is *true Merit* should also be often presented to Youth, explain'd and impress'd on their Minds, as consisting in an *Inclination* join'd with an *Ability* to serve Mankind, one's Country, Friends and Family; which *Ability* is (with the Blessing of God) to be acquir'd or greatly encreas'd by *true Learning;* and should indeed be the great *Aim* and *End* of all Learning.

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93. TO PETER COLLINSON[1]

SIR, [Philadelphia,] 1748.

§ 1. There will be the same explosion and shock if the electrified phial is held in one hand by the hook, and the

[1] From "Experiments and Observations on Electricity," London, 1769, p. 21.

coating touch'd with the other, as when held by the coating, and touch'd at the hook.

2. To take the charg'd phial safely by the hook, and not at the same time diminish its force, it must first be set down on an electric *per se*.

3. The phial will be electrified as strongly, if held by the hook, and the coating apply'd to the globe or tube; as when held by the coating, and the hook apply'd.[1]

4. But the *direction* of the electrical fire, being different in the charging, will also be different in the explosion. The bottle charged through the hook, will be discharged through the hook; the bottle charged through the coating, will be discharged through the coating; and not otherways; for the fire must come out the same way it went in.

5. To prove this, take two bottles that were equally charged through the hooks, one in each hand; bring their hooks near each other, and no spark or shock will follow; because each hook is disposed to give fire, and neither to receive it. Set one of the bottles down on glass, take it up by the hook, and apply its coating to the hook of the other; then there will be an explosion and shock, and both bottles will be discharged.

6. Vary the experiment, by charging two phials equally, one through the hook, the other through the coating; hold that by the coating which was charged through the hook; and that by the hook which was charged through the coating; apply the hook of the first to the coating of the other, and there will be no shock or spark. Set that down on glass which you held by the hook, take it up by the coating, and

[1] This was a Discovery of the very ingenious Mr. *Kinnersley's*, and by him communicated to me. — F.

bring the two hooks together: a spark and shock will follow, and both phials be discharged.

In this experiment the bottles are totally discharged, or the equilibrium within them restored. The *abounding* of fire in one of the hooks (or rather in the internal surface of one bottle) being exactly equal to the *wanting* of the other; and therefore, as each bottle has in itself the *abounding* as well as the *wanting*, the wanting and abounding must be equal in each bottle. See § 8, 9, 10, 11. But if a man holds in his hands two bottles, one fully electrified, the other not at all, and brings their hooks together, he has but half a shock, and the bottles will both remain half electrified, the one being half discharged, and the other half charged.

7. Place two phials equally charged on a table, at five or six inches distance. Let a cork ball, suspended by a silk thread, hang between them. If the phials were both charged through their hooks, the cork, when it has been attracted and repelled by the one, will not be attracted, but equally repelled by the other. But, if the phials were charged, the one through the hook, and the other through the coating,[1] the ball, when it is repelled from one hook, will be as strongly attracted by the other, and play vigorously between them [fetching the electric fluid from the one, and delivering it to the other — 1774] till both phials are nearly discharged.

8. When we use the terms of *charging* and *discharging* the phial, it is in compliance with custom, and for want of

[1] To charge a bottle commodiously through the coating, place it on a glass stand; form a communication from the prime conductor to the coating, and another from the hook to the wall or floor. When it is charged, remove the latter communication before you take hold of the bottle, otherwise great part of the fire will escape by it. — F.

others more suitable. Since we are of opinion, that there is really no more electrical fire in the phial after what is called its *charging*, than before, nor less after its *discharging;* excepting only the small spark that might be given to, and taken from, the non-electric matter, if separated from the bottle, which spark may not be equal to a five-hundredth part of what is called the explosion.

For if, on the explosion, the electrical fire came out of the bottle by one part, and did not enter in again by another, then, if a man, standing on wax, and holding the bottle in one hand, takes the spark by touching the wire hook with the other, the bottle being thereby *discharged*, the man would be *charged;* or whatever fire was lost by one, would be found in the other, since there was no way for its escape: But the contrary is true.

9. Besides, the phial will not suffer what is called a *charging*, unless as much fire can go out of it one way, as is thrown in by another. A phial cannot be charged standing on wax or glass, or hanging on the prime conductor, unless a communication be formed between its coating and the floor.

10. But suspend two or more phials on the prime conductor, one hanging to the tail of the other; and a wire from the last to the floor, an equal number of turns of the wheel shall charge them all equally, and every one as much as one alone would have been; what is driven out at the tail of the first, serving to charge the second; what is driven out of the second charging the third; and so on. By this means a great number of bottles might be charged with the same labour, and equally high, with one alone, were it not that every bottle receives new fire, and loses its old with some reluctance, or rather gives some small resistance to the

charging, which in a number of bottles becomes more equal to the charging power, and so repels the fire back again on the globe, sooner [in proportion] than a single bottle would do.

11. When a bottle is charged in the common way, its *inside* and *outside surfaces* stand ready, the one to give fire by the hook, the other to receive it by the coating; the one is full, and ready to throw out, the other empty and extremely hungry; yet as the first will not *give out*, unless the other can at the same instant *receive in*, so neither will the latter receive in, unless the first can at the same instant give out. When both can be done at once, it is done with inconceivable quickness and violence.

12. So a strait spring (though the comparison does not agree in every particular) when forcibly bent, must, to restore itself, contract that side which in the bending was extended, and extend that which was contracted; if either of these two operations be hindered, the other cannot be done. But the spring is not said to be *charg'd* with elasticity when bent, and *discharged* when unbent; its quantity of elasticity is always the same.

13. Glass, in like manner, has within its substance always the same quantity of electrical fire, and that a very great quantity in proportion to the mass of glass, as shall be shewn hereafter.

14. This quantity, proportioned to the glass, it strongly and obstinately retains, and will have neither more nor less though it will suffer a change to be made in its parts and situation; that is, we may take away part of it from one of the sides, provided we throw an equal quantity into the other.

15. Yet, when the situation of the electrical fire is thus altered in the glass; when some has been taken from one

side, and some added to the other, it will not be at rest, or in its natural state, till it is restored to its original equality. And this restitution cannot be made through the substance of the glass, but must be done by a non-electric communication formed without, from surface to surface.

16. Thus, the whole force of the bottle, and power of giving a shock, is in the *glass itself;* the non-electrics in contact with the two surfaces, serving only to *give* and *receive* to and from the several parts of the glass; that is, to give on one side, and take away from the other.

17. This was discovered here in the following manner: Purposing to analyze the electrified bottle, in order to find wherein its strength lay, we placed it on glass, and drew out the cork and wire, which for that purpose had been loosely put in. Then taking the bottle in one hand, and bringing a finger of the other near its mouth, a strong spark came from the water, and the shock was as violent as if the wire had remained in it, which shewed that the force did not lie in the wire. Then, to find if it resided in the water, being crouded into and condensed in it, as confin'd by the glass, which had been our former opinion, we electrified the bottle again, and, placing it on glass, drew out the wire and cork as before; then, taking up the bottle, we decanted all its water into an empty bottle, which likewise stood on glass; and taking up that other bottle, we expected, if the force resided in the water, to find a shock from it; but there was none. We judged then, that it must either be lost in decanting, or remain in the first bottle. The latter we found to be true; for that bottle on trial gave the shock, though filled up as it stood with fresh unelectrified water from a tea-pot. To find, then, whether glass had this property merely as glass,

or whether the form contributed any thing to it; we took a pane of sash-glass, and, laying it on the hand [stand], placed a plate of lead on its upper surface; then electrified that plate, and bringing a finger to it, there was a spark and shock. We then took two plates of lead of equal dimensions, but less than the glass by two inches every way, and electrified the glass between them, by electrifying the uppermost lead; then separated the glass from the lead, in doing which, what little fire might be in the lead was taken out, and the glass being touched in the electrified parts with a finger, afforded only very small pricking sparks, but a great number of them might be taken from different places. Then dexterously placing it again between the leaden plates, and compleating a circle between the two surfaces, a violent shock ensued. Which demonstrated the power to reside in glass as glass, and that the non-electrics in contact served only, like the armature of a loadstone, to unite the force of the several parts, and bring them at once to any point desired; it being the property of a non-electric, that the whole body instantly receives or gives what electrical fire is given to, or taken from, any one of its parts.

18. Upon this we made what we called an *electrical battery*, consisting of eleven panes of large sash-glass, arm'd with thin leaden plates, pasted on each side, placed vertically, and supported at two inches distance on silk cords, with thick hooks of leaden wire, one from each side, standing upright, distant from each other, and convenient communications of wire and chain, from the giving side of one pane, to the receiving side of the other; that so the whole might be charged together, and with the same labour as one single pane; and another contrivance to bring the giving

sides, after charging, in contact with one long wire, and the receivers with another, which two long wires would give the force of all the plates of glass at once through the body of any animal forming the circle with them. The plates may also be discharged separately, or any number together that is required. But this machine is not much used, as not perfectly answering our intention with regard to the ease of charging, for the reason given, *Sec.* 10. We made also, of large glass panes, magical pictures, and self-moving animated wheels, presently to be described.

19. I perceive by the ingenious Mr. *Watson's* last book, lately received, that Dr. *Bevis* had used, before we had, panes of glass to give a shock;[1] though, till that book came to hand, I thought to have communicated it to you as a novelty. The excuse for mentioning it here is, that we tried the experiment differently, drew different consequences from it (for Mr. *Watson* still seems to think the fire *accumulated on the non-electric* that is in contact with the glass, p. 72) and, as far as we hitherto know, have carried it farther.

20. The magical picture[2] is made thus. Having a large metzotinto with a frame and glass, suppose of the KING, (God preserve him) take out the print, and cut a pannel out of it near two inches distant from the frame all round. If the cut is through the picture, it is not the worse. With thin paste, or gum-water, fix the border that is cut off on the inside the glass, pressing it smooth and close; then fill up the vacancy by gilding the glass well with leaf-gold, or brass. Gild likewise the inner edge of the back of the frame all round, except the top part, and form a communication

[1] I have since heard, that Mr. *Smeaton* was the first who made use of panes of glass for that purpose. — F.

[2] Contrived by Mr. *Kinnersley*. — F.

between that gilding and the gilding behind the glass: then put in the board, and that side is finished. Turn up the glass, and gild the fore side exactly over the back gilding, and when it is dry, cover it by pasting on the pannel of the picture that hath been cut out, observing to bring the correspondent parts of the border and picture together, by which the picture will appear of a piece, as at first, only part is behind the glass, and part before. Hold the picture horizontally by the top, and place a little moveable gilt crown on the king's head. If now the picture be moderately electrified, and another person take hold of the frame with one hand, so that his fingers touch its inside gilding, and with the other hand endeavour to take off the crown, he will receive a terrible blow, and fail in the attempt. If the picture were highly charged, the consequence might perhaps be as fatal[1] as that of high treason, for when the spark is taken through a quire of paper laid on the picture, by means of a wire communication, it makes a fair hole through every sheet, that is, through forty-eight leaves, though a quire of paper is thought good armour against the push of a sword, or even against a pistol bullet, and the crack is exceeding loud. The operator, who holds the picture by the upper end, where the inside of the frame is not gilt, to prevent its falling, feels nothing of the shock, and may touch the face of the picture without danger, which he pretends is a test of his loyalty. If a ring of persons take the shock among them, the experiment is called *The Conspirators*.

21. On the principle, in *Sec.* 7, that hooks of bottles, differently charged, will attract and repel differently, is made an

[1] We have since found it fatal to small animals, though not to large ones. The biggest we have yet killed is a hen. 1750.

electrical wheel, that turns with considerable strength. A small upright shaft of wood passes at right angles through a thin round board, of about twelve inches diameter, and turns on a sharp point of iron, fixed in the lower end, while a strong wire in the upper end, passing through a small hole in a thin brass plate, keeps the shaft truly vertical. About thirty *radii* of equal length, made of sash-glass, cut in narrow strips, issue horizontally from the circumference of the board, the ends most distant from the center being about four inches apart. On the end of every one, a brass thimble is fixed. If now the wire of a bottle electrified in the common way, be brought near the circumference of this wheel, it will attract the nearest thimble, and so put the wheel in motion; that thimble, in passing by, receives a spark, and thereby being electrified is repelled, and so driven forwards; while a second being attracted, approaches the wire, receives a spark, and is driven after the first, and so on till the wheel has gone once round, when the thimbles before electrified approaching the wire, instead of being attracted as they were at first, are repelled, and the motion presently ceases. But if another bottle, which had been charged through the coating, be placed near the same wheel, its wire will attract the thimble repelled by the first, and thereby double the force that carries the wheel round; and not only taking out the fire that had been communicated to the thimbles by the first bottle, but even robbing them of their natural quantity, instead of being repelled when they come again towards the first bottle, they are more strongly attracted, so that the wheel mends its pace, till it goes with great rapidity, twelve or fifteen rounds in a minute, and with such strength, as that the weight of one hundred *Spanish* dollars, with which we

once loaded it, did not seem in the least to retard its motion. This is called an electrical jack; and if a large fowl were spitted on the upright shaft, it would be carried round before a fire with a motion fit for roasting.

22. But this wheel, like those driven by wind, water, or weights, moves by a foreign force, to wit, that of the bottles. The self-moving wheel, though constructed on the same principles, appears more surprising. 'Tis made of a thin round plate of window-glass, seventeen inches diameter, well gilt on both sides, all but two inches next the edge. Two small hemispheres of wood are then fixed with cement to the middle of the upper and under sides, centrally opposite, and in each of them a thick strong wire eight or ten inches long, which together make the axis of the wheel. It turns horizontally on a point at the lower end of its axis, which rests on a bit of brass cemented within a glass salt-cellar. The upper end of its axis passes through a hole in a thin brass plate cemented to a long strong piece of glass, which keeps it six or eight inches distant from any non-electric, and has a small ball of wax or metal on its top, to keep in the fire. In a circle on the table which supports the wheel, are fixed twelve small pillars of glass, at about four inches distance, with a thimble on the top of each. On the edge of the wheel is a small leaden bullet, communicating by a wire with the gilding of the *upper* surface of the wheel; and about six inches from it is another bullet communicating in like manner with the *under* surface. When the wheel is to be charged by the upper surface, a communication must be made from the under surface to the table. When it is well charged, it begins to move; the bullet nearest to a pillar moves towards the thimble on that pillar, and passing by, electrifies it, and then

pushes itself from it; the succeeding bullet, which communicates with the other surface of the glass, more strongly attracts that thimble, on account of its being before electrified by the other bullet; and thus the wheel increases its motion till it comes to such a height that the resistance of the air regulates it. It will go half an hour, and make one minute with another twenty turns in a minute, which is six hundred turns in the whole; the bullet of the upper surface giving in each turn twelve sparks, to the thimbles, which makes seven thousand two hundred sparks; and the bullet of the under surface receiving as many from the thimbles; those bullets moving in the time near two thousand five hundred feet. The thimbles are well fixed, and in so exact a circle, that the bullets may pass within a very small distance of each of them. If, instead of two bullets you put eight, four communicating with the upper surface, and four with the under surface, placed alternately; which eight, at about six inches distance, completes the circumference, the force and swiftness will be greatly increased, the wheel making fifty turns in a minute; but then it will not continue moving so long. These wheels may be applied, perhaps, to the ringing of chimes,[1] and moving of light-made orreries.

23. A small wire bent circularly, with a loop at each end; let one end rest against the under surface of the wheel, and bring the other end near the upper surface, it will give a terrible crack, and the force will be discharged.

24. Every spark in that manner drawn from the surface of the wheel, makes a round hole in the gilding, tearing off a part of it in coming out; which shews that the fire is not accumulated on the gilding, but is in the glass itself.

[1] This was afterwards done with success by Mr. *Kinnersley*. — F.

25. The gilding being varnished over with turpentine varnish, the varnish, though dry and hard, is burnt by the spark drawn through it, and gives a strong smell and visible smoke. And when the spark is drawn through paper, all round the hole made by it, the paper will be blacked by the smoke, which sometimes penetrates several of the leaves. Part of the gilding torn off, is also found forcibly driven into the hole made in the paper by the stroke.

26. It is amazing to observe in how small a portion of glass a great electrical force may lie. A thin glass bubble, about an inch diameter, weighing only six grains, being half filled with water, partly gilt on the outside, and furnish'd with a wire hook, gives, when electrified, as great a shock as a man can well bear. As the glass is thickest near the orifice, I suppose the lower half, which being gilt was electrified and gave the shock, did not exceed two grains; for it appeared, when broke, much thinner than the upper half. If one of these thin bottles be electrified by the coating, and the spark taken out through the gilding, it will break the glass inwards, at the same time that it breaks the gilding outwards.

27. And allowing (for the reasons before given, §. 8, 9, 10,) that there is no more electrical fire in a bottle after charging than before, how great must be the quantity in this small portion of glass! It seems as if it were of its very substance and essence. Perhaps if that due quantity of electrical fire so obstinately retained by glass, could be separated from it, it would no longer be glass; it might lose its transparency, or its brittleness, or its elasticity. Experiments may possibly be invented hereafter to discover this.

28. We were surprised at the account given in Mr. *Watson's* book, of a shock communicated through a great

space of dry ground, and suspect there must be some metalline quality in the gravel of that ground; having found that simple dry earth, rammed in a glass tube, open at both ends, and a wire hook inserted in the earth at each end, the earth and wires making part of a circuit, would not conduct the least perceptible shock, and indeed when one wire was electrified, the other hardly shewed any signs of its being in connection with it.[1] Even a thoroughly wet packthread sometimes fails of conducting a shock, though it otherwise conducts Electricity very well. A dry cake of ice, or an icicle held between two in a circle, likewise prevents the shock, which one would not expect, as water conducts it so perfectly well. Gilding on a new book, though at first it conducts the shock extremely well, yet fails after ten or a dozen experiments, though it appears otherwise in all respects the same, which we cannot account for.[2]

29. There is one experiment more which surprizes us, and is not hitherto satisfactorily accounted for; it is this: Place an iron shot on a glass stand, and let a ball of damp cork, suspended by a silk thread, hang in contact with the shot. Take a bottle in each hand, one that is electrified through the hook, the other through the coating: Apply the giving wire to the shot, which will electrify it *positively*, and the cork shall be repelled: then apply the requiring wire, which will take out the spark given by the other; when the cork will return to the shot: Apply the same again, and take

[1] Probably the ground is never so dry. — F.

[2] We afterwards found that it failed after one stroke with a large bottle; and the continuity of the gold appearing broken, and many of its parts dissipated, the Electricity could not pass the remaining parts without leaping from part to part through the air, which always resists the motion of this fluid, and was probably the cause of the gold's not conducting so well as before. — F.

out another spark, so will the shot be electrified *negatively*, and the cork in that case shall be repelled equally as before. Then apply the giving wire to the shot, and give the spark it wanted, so will the cork return: Give it another, which will be an addition to its natural quantity, so will the cork be repelled again: And so may the experiment be repeated as long as there is any charge in the bottles. Which shews, that bodies having less than the common quantity of Electricity, repel each other, as well as those that have more.

Chagrined a little that we have been hitherto able to produce nothing in this way of use to mankind; and the hot weather coming on, when electrical experiments are not so agreeable, it is proposed to put an end to them for this season, somewhat humorously, in a party of pleasure on the banks of *Skuylkil*.[1] Spirits, at the same time, are to be fired by a spark sent from side to side through the river, without any other conductor than the water; an experiment which we some time since performed, to the amazement of many.[2]

[1] The river that washes one side of *Philadelphia* as the *Delaware* does the other; both are ornamented with the summer habitations of the citizens, and the agreeable mansions of the principal people of this colony. — F.

[2] As the possibility of this experiment has not been easily conceived, I shall here describe it. Two iron rods, about three feet long, were planted just within the margin of the river, on the opposite sides. A thick piece of wire, with a small round knob at its end, was fixed to the top of one of the rods, bending downwards, so as to deliver commodiously the spark upon the surface of the spirit. A small wire fastened by one end to the handle of the spoon, containing the spirit, was carried across the river, and supported in the air by the rope commonly used to hold by, in drawing the ferry-boats over. The other end of this wire was tied round the coating of the bottle; which being charged, the spark was delivered from the hook to the top of the rod standing in the water on that side. At the same instant the rod on the other side delivered a spark into the spoon, and fired the spirit; the electric fire returning to the coating of the bottle, through the handle of the spoon and the supported wire connected with them.

That the electric fire thus actually passes through the water, has since been

A turkey is to be killed for our dinner by the *electrical shock*, and roasted by the *electrical jack*, before a fire kindled by the *electrified bottle:* when the healths of all the famous electricians in *England*, *Holland*, *France*, and *Germany* are to be drank in *electrified bumpers*,[1] under the discharge of guns from the *electrical battery*. April 29, 1749.

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94. TO PETER COLLINSON[2]

Containing Observations and Suppositions, towards forming a new Hypothesis for explaining the several Phænomena of Thunder-gusts.[3]

SIR,

Non-electric bodies, that have electric fire thrown into them, will retain it till other electrics, that have less, approach; and then it is communicated by a snap, and becomes equally divided.

2. Electrical fire loves water, is strongly attracted by it, and they can subsist together.

3. Air is an electric *per se*, and when dry will not conduct the electrical fire; it will neither receive it, nor give it to other bodies; otherwise no body surrounded by air, could be

satisfactorily demonstrated to many by an experiment of Mr. *Kinnersley's*, performed in a trough of water about ten feet long. The hand being placed under water in the direction of the spark (which always takes the strait or shortest course) is struck and penetrated by it as it passes. — F.

[1] An *electrified bumper* is a small thin glass tumbler, near filled with wine, and electrified as the bottle. This when brought to the lips gives a shock, if the party be close shaved, and does not breathe on the liquor. — F.

[2] From "Experiments and Observations on Electricity." London, 1769, p. 39.

[3] Thunder-gusts are sudden storms of thunder and lightning, which are frequently of short duration, but sometimes produce mischievous effects. — F.

electrified positively and negatively: for should it be attempted positively: the air would immediately take away the overplus; or negatively, the air would supply what was wanting.

4. Water being electrified, the vapours arising from it will be equally electrified; and floating in the air, in the form of clouds, or otherwise, will retain that quantity of electrical fire, till they meet with other clouds or bodies not so much electrified, and then will communicate as before mentioned.

5. Every particle of matter electrified is repelled by every other particle equally electrified. Thus the stream of a fountain, naturally dense and continual, when electrified, will separate and spread in the form of a brush, every drop endeavouring to recede from every other drop. But on taking out the electrical fire they close again.

6. Water being strongly electrified (as well as when heated by common fire) rises in vapours more copiously; the attraction of cohesion among its particles being greatly weakened, by the opposite power of repulsion introduced with the electrical fire; and, when any particle is by any means disengaged, it is immediately repelled, and so flies into the air.

7. Particles happening to be situated as *A* and *B* (Fig. 6, *representing the profile of a vessel of water*) are more easily disengaged than *C* and *D*, as each is held by contact with three only, whereas *C* and *D* are each in contact with nine. When the surface of the water has the least motion, particles are continually pushed into the situation represented by *A* and *B*.

8. Friction between a non-electric and an electric *per se* will produce electrical fire; not by *creating*, but *collecting*

it; for it is equally diffused in our walls, floors, earth, and the whole mass of common matter. Thus the whirling glass globe, during its friction against the cushion, draws fire from the cushion, the cushion is supplied from the frame of the machine, that from the floor on which it stands. Cut off the communication by thick glass or wax, placed under the cushion, and no fire can be *produced*, because it cannot be *collected*.

9. The ocean is a compound of water, a non-electric, and salt, an electric *per se*.

10. When there is a friction among the parts near its surface, the electrical fire is collected from the parts below. It is then plainly visible in the night; it appears in the stern and in the wake of every sailing vessel; every dash of an oar shews it, and every surf and spray: In storms the whole sea seems on fire. The detach'd particles of water, then repelled from the electrified surface, continually carry off the fire as it is collected; they rise and form clouds, and those clouds are highly electrified, and retain the fire till they have an opportunity of communicating it.

11. The particles of water, rising in vapours, attach themselves to particles of air.

12. The particles of air are said to be hard, round, separate, and distant from each other; every particle strongly repelling every other particle, whereby they recede from each other, as far as common gravity will permit.

13. The space between any three particles, equally repelling each other, will be an equilateral triangle.

14. In air compressed, these triangles are smaller; in rarefied air they are larger.

15. Common fire, joined with air, increases the repulsion,

enlarges the triangles, and thereby makes the air specifically lighter. Such air, among denser air, will rise.

16. Common fire, as well as electrical fire, gives repulsion to the particles of water, and destroys their attraction of cohesion; hence common fire, as well as electrical fire, assists in raising vapours.

17. Particles of water, having no fire in them, mutually attract each other. Three particles of water then being attached to the three particles of a triangle of air, would by their mutual attraction operating against the air's repulsion, shorten the sides and lessen the triangle, whereby that portion of air made denser, would sink to the earth with its water, and not rise to the formation of a cloud.

18. But, if every particle of water attaching itself to air brings with it a particle of common fire, the repulsion of the air being assisted and strengthened by the fire, more than obstructed by the mutual attraction of the particles of water, the triangle dilates, and that portion of air, becoming rarer and specifically lighter, rises.

19. If the particles of water bring electrical fire when they attach themselves to air, the repulsion between the particles of water electrified, joins with the natural repulsion of the air, to force its particles to a greater distance, whereby the triangles are dilated, and the air rises, carrying up with it the water.

20. If the particles of water bring with them portions of *both sorts* of fire, the repulsion of the particles of air is still more strengthened and increased, and the triangles farther enlarged.

21. One particle of air may be surrounded by twelve particles of water of equal size with itself, all in contact with it; and by more added to those.

22. Particles of air, thus loaded, would be drawn nearer together by the mutual attraction of the particles of water, did not the fire, common or electrical, assist their repulsion.

23. If air, thus loaded, be compressed by adverse winds, or by being driven against mountains, &c., or condensed by taking away the fire that assisted it in expanding; the triangles contract, the air with its water will descend as a dew; or, if the water surrounding one particle of air comes in contact with the water surrounding another, they coalesce and form a drop, and we have rain.

24. The sun supplies (or seems to supply) common fire to all vapours, whether raised from earth or sea.

25. Those vapours, which have both common and electrical fire in them, are better supported, than those which have only common fire in them, For when vapours rise into the coldest region above the earth, the cold will not diminish the electrical fire, if it doth the common.

26. Hence clouds formed by vapours raised from fresh waters within land, from growing vegetables, moist earth, &c., more speedily and easily deposite their water, having but little electrical fire to repel and keep the particles separate. So that the greatest part of the water raised from the land, is let fall on the land again; and winds blowing from the land to the sea are dry; there being little use for rain on the sea, and to rob the land of its moisture, in order to rain on the sea, would not appear reasonable.

27. But clouds, formed by vapours raised from the sea, having both fires, and particularly a great quantity of the electrical, support their water strongly, raise it high, and being moved by winds, may bring it over the middle of the broadest continent from the middle of the widest ocean.

28. How these ocean clouds, so strongly supporting their water, are made to deposite it on the land where it is wanted, is next to be considered.

29. If they are driven by winds against mountains, those mountains being less electrified attract them, and on contact take away their electrical fire, (and being cold, the common fire also;) hence the particles close towards the mountains and towards each other. If the air was not much loaded, it only falls in dews on the mountain tops and sides, forms springs, and descends to the vales in rivulets, which united, make larger streams and rivers. If much loaded, the electrical fire is at once taken from the whole cloud; and, in leaving it, flashes brightly and cracks loudly; the particles instantly coalescing for want of that fire, and falling in a heavy shower.

30. When a ridge of mountains thus dams the clouds, and draws the electrical fire from the cloud first approaching it; that which next follows, when it comes near the first cloud, now deprived of its fire, flashes into it, and begins to deposite its own water; the first cloud again flashing into the mountains; the third approaching cloud, and all the succeeding ones, acting in the same manner as far back as they extend, which may be over many hundred miles of country.

31. Hence the continual storms of rain, thunder, and lightning on the east side of the *Andes*, which running north and south, and being vastly high, intercept all the clouds brought against them from the *Atlantic* ocean by the trade winds, and oblige them to deposite their waters, by which the vast rivers *Amazons*, *La Plata*, and *Oroonoko* are formed, which return the water into the same sea, after having fertilized a country of very great extent.

32. If a country be plain, having no mountains to intercept the electrified clouds, yet it is not without means to make them deposite their water. For if an electrified cloud coming from the sea, meets in the air a cloud raised from the land, and therefore not electrified; the first will flash its fire into the latter, and thereby both clouds shall be made suddenly to deposite water.

33. The electrified particles of the first cloud close when they lose their fire; the particles of the other clouds close in receiving it: in both, they have thereby an opportunity of coalescing into drops. The concussion or jerk given to the air, contributes also to shake down the water, not only from those two clouds, but from others near them. Hence the sudden fall of rain immediately after flashes of lightning.

34. To shew this by an easy experiment: Take two round pieces of pasteboard, two inches diameter; from the center and circumference of each of them suspend by fine silk threads eighteen inches long, seven small balls of wood, or seven peas equal in bigness: so will the balls, appending to each pasteboard, form equal equilateral triangles, one ball being in the center, and six at equal distances from that, and from each other; and thus they represent particles of air. Dip both sets in water, and some adhering to each ball, they will represent air loaded. Dexterously electrify one set, and its balls will repel each other to a greater distance, enlarging the triangles. Could the water supported by seven balls come into contact, it would form a drop or drops so heavy as to break the cohesion it had with the balls, and so fall. Let the two sets then represent two clouds, the one a sea cloud electrified, the other a land cloud. Bring them within the sphere of attraction, and they will draw towards

each other, and you will see the separated balls close thus; the first electrified ball that comes near an unelectrified ball by attraction joins it, and gives it fire; instantly they separate, and each flies to another ball of its own party, one to give, the other to receive fire; and so it proceeds through both sets, but so quick as to be in a manner instantaneous. In the cohesion they shake off and drop their water, which represents rain.

35. Thus, when sea and land clouds would pass at too great a distance from the flash, they are attracted towards each other till within that distance; for the sphere of electrical attraction is far beyond the distance of flashing.

36. When a great number of clouds from the sea meet a number of clouds raised from the land, the electrical flashes appear to strike in different parts; and as the clouds are jostled and mixed by the winds, or brought near by the electrical attraction, they continue to give and receive flash after flash, till the electrical fire is equally diffused.

37. When the gun-barrel (in electrical experiments) has but little electrical fire in it, you must approach it very near with your knuckle, before you can draw a spark. Give it more fire, and it will give a spark at a greater distance. Two gun-barrels united, and as highly electrified, will give a spark at a still greater distance. But, if two gun-barrels electrified will strike at two inches distance, and make a loud snap, to what a great distance may 10,000 acres of electrified cloud strike and give its fire, and how loud must be that crack?

38. It is a common thing to see clouds at different heights passing different ways, which shews different currents of air, one under the other. As the air between the tropics is

rarified by the sun, it rises, the denser northern and southern air pressing into its place. The air, so rarified and forced up, passes northward and southward, and must descend into the polar regions, if it has no opportunity before, that the circulation may be carried on.

39. As currents of air, with the clouds therein, pass different ways, 'tis easy to conceive how the clouds, passing over each other, may attract each other, and so come near enough for the electrical stroke. And also how electrical clouds may be carried within land very far from the sea, before they have an opportunity to strike.

40. When the air, with its vapours raised from the ocean between the tropics, comes to descend in the polar regions, and to be in contact with the vapours arising there, the electrical fire they brought begins to be communicated, and is seen in clear nights, being first visible where 'tis first in motion, that is, where the contact begins, or in the most northern part; from thence the streams of light seem to shoot southerly, even up to the zenith of northern countries. But tho' the light seems to shoot from the north southerly, the progress of the fire is really from the south northerly, its motion beginning in the north being the reason that 'tis there first seen.

For the electrical fire is never visible but when in motion, and leaping from body to body, or from particle to particle, thro' the air. When it passes thro' dense bodies, 'tis unseen. When a wire makes part of the circle, in the explosion of the electrical phial, the fire, though in great quantity, passes in the wire invisibly: but in passing along a chain, it becomes visible as it leaps from link to link. In passing along leaf gilding 'tis visible: for the leaf gold is full of pores;

hold a leaf to the light and it appears like a net, and the fire is seen in its leaping over the vacancies. And as when a long canal filled with still water is opened at one end, in order to be discharged, the motion of the water begins first near the opened end, and proceeds towards the close end, tho' the water itself moves from the close towards the opened end: so the electrical fire discharged into the polar regions, perhaps from a thousand leagues length of vaporised air, appears first where 'tis first in motion, *i.e.*, in the most northern part, and the appearance proceeds southward, tho' the fire really moves northward. This is supposed to account for the *Aurora Borealis*.

41. When there is great heat on the land, in a particular region (the sun having shone on it perhaps several days, while the surrounding countries have been screen'd by clouds) the lower air is rarified and rises, the cooler, denser air above descends; the clouds in that air meet from all sides, and join over the heated place; and if some are electrified, others not, lightning and thunder succeed, and showers fall. Hence thunder-gusts after heats, and cool air after gusts; the water and the clouds that bring it, coming from a higher and therefore a cooler region.

42. An electrical spark, drawn from an irregular body at some distance, is scarce ever strait, but shows crooked and waving in the air. So do the flashes of lightning, the clouds being very irregular bodies.

43. As electrified clouds pass over a country, high hills and high trees, lofty towers, spires, masts of ships, chimneys, &c., as so many prominencies and points, draw the electrical fire, and the whole cloud discharges there.

44. Dangerous, therefore, is it to take shelter under a

tree, during a thunder-gust. It has been fatal to many, both men and beasts.

45. It is safer to be in the open field for another reason. When the cloaths are wet, if a flash in its way to the ground should strike your head, it may run in the water over the surface of your body; whereas, if your cloaths were dry, it would go through the body, [because the blood and other humours, containing so much water, are more ready conductors—1774].

Hence a wet rat cannot be killed by the exploding electrical bottle, when a dry rat may.[1]

46. Common fire is in all bodies, more or less, as well as electrical fire. Perhaps they may be different modifications of the same element; or they may be different elements. The latter is by some suspected.

47. If they are different things, yet they may and do subsist together in the same body.

48. When electrical fire strikes through a body, it acts upon the common fire contained in it, and puts that fire in motion; and if there be a sufficient quantity of each kind of fire, the body will be inflamed.

49. When the quantity of common fire in the body is small, the quantity of the electrical fire (or the electrical stroke) should be greater: if the quantity of common fire be great, less electrical fire suffices to produce the effect.

50. Thus spirits must be heated before we can fire them by the electrical spark.[2] If they are much heated, a small spark will do; if not, the spark must be greater.

[1] This was tried with a bottle, containing about a quart. It is since thought that one of the large glass jars, mentioned in these papers, might have killed him, though wet. — F.

[2] We have since fired spirits without heating them, when the weather is

51. Till lately, we could only fire warm vapours; but now we can burn hard, dry rosin. And when we can procure greater electrical sparks, we may be able to fire not only unwarm'd spirits, as lightning does, but even wood, by giving sufficient agitation to the common fire contained in it, as friction we know will do.

52. Sulphureous and inflammable vapours arising from the earth, are easily kindled by lightning. Besides what arise from the earth, such vapours are sent out by stacks of moist hay, corn, or other vegetables, which heat and reek. Wood, rotting in old trees or buildings, does the same. Such are therefore easily and often fired.

53. Metals are often melted by lightning, tho' perhaps not from heat in the lightning, nor altogether from agitated fire in the metals. For as whatever body can insinuate itself between the particles of metal, and overcome the attraction by which they cohere (as sundry *menstrua* can) will make the solid become a fluid, as well as fire, yet without heating it: so the electrical fire, or lightning, creating a violent repulsion between the particles of the metal it passes through, the metal is fused.

54. If you would, by a violent fire, melt off the end of a nail, which is half driven into a door, the heat given the whole nail before a part would melt, must burn the board it sticks in. And the melted part would burn the floor it dropp'd on. But if a sword can be melted in the scabbard, and money in a man's pocket by lightning, without burning either, it must be a cold fusion.[1]

warm. A little poured into the palm of the hand, will be warmed sufficiently by the hand, if the spirit be well rectified. Æther takes fire most readily. — F.

[1] These facts, though related in several accounts, are now doubted; since

55. Lightning rends some bodies. The electrical spark will strike a hole through a quire of strong paper.

56. If the source of lightning, assigned in this paper, be the true one, there should be little thunder heard at sea far from land. And accordingly some old sea-captains, of whom enquiry has been made, do affirm, that the fact agrees perfectly with the hypothesis; for that in crossing the great ocean, they seldom meet with thunder till they come into soundings; and that the islands far from the continent have very little of it. And a curious observer, who lived 13 years at *Bermudas*, says, there was less thunder there in that whole time, than he has sometimes heard in a month at *Carolina*.

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95. TO PETER COLLINSON[1]

[Philadelphia,] July 27, 1750.

SIR,

Mr. W-ts-n,[2] I believe, wrote his Observations on my last paper in haste, without having first well considered the Experiments related § 17,[3] which still appear to me decisive in the question, *Whether the accumulation of the electrical fire be in the electrified glass, or in the non-electric matter connected with the glass?* and to demonstrate that 'tis really in the glass.

it has been observed that the parts of a bell-wire which fell on the floor being broken and partly melted by lightning, did actually burn into the boards. (See "Philos. Trans." Vol. LI. Part I.) and Mr. *Kinnersley* has found, that a fine iron wire, melted by Electricity, has had the same effect. — F.

[1] From "Experiments and Observations on Electricity," London, 1769, p. 89. — F.

[2] William Watson, M.D. — Ed.

[3] See the Paper entitled, *Farther Experiments*, &c. — F.

As to the experiment that ingenious Gentleman mentions, and which he thinks conclusive on the other side, I persuade myself he will change his opinion of it, when he considers, that as one person applying the wire of the charged bottle to warm spirits, in a spoon held by another person, both standing on the floor, will fire the spirits, and yet such firing will not determine whether the accumulation was in the glass or the non-electric; so the placing another person between them, standing on wax, with a bason in his hand, into which the water from the phial is pour'd, *while he at the instant of pouring* presents a finger of his other hand to the spirits, does not at all alter the case; the stream from the phial, the side of the bason, with the arms and body of the person on the wax, being altogether but as one long wire, reaching from the internal surface of the phial to the spirits.

June 29th, 1751[?]. In Captain *Waddell's* account of the effects of lightning on his ship, I could not but take notice of the large comazants (as he calls them) that settled on the spintles at the top-mast heads, and burned like very large torches (before the stroke). According to my opinion, the electrical fire was then drawing off, as by points, from the cloud; the largeness of the flame betokening the great quantity of electricity in the cloud: and had there been a good wire communication from the spintle heads to the sea, that could have conducted more freely than tarred ropes, or masts of turpentine wood, I imagine there would either have been no stroke; or, if a stroke, the wire would have conducted it all into the sea without damage to the ship.

His compasses lost the virtue of the loadstone, or the

poles were reversed; the North point turning to the South. By Electricity we have (*here* at *Philadelphia*) frequently given polarity to needles, and reversed it at pleasure. Mr. *Wilson*, at *London*, tried it on too large masses, and with too small force.

A shock from four large glass jars, sent through a fine sewing-needle, gives it polarity, and it will traverse when laid on water. If the needle when struck lies East and West, the end entered by the electric blast points North. If it lies North and South, the end that lay towards the North will continue to point North when placed on water, whether the fire entered at that end, or at the contrary end.

The Polarity given is strongest when the Needle is struck lying North and South, weakest when lying East and West; perhaps if the force was still greater, the South end, enter'd by the fire, (when the needle lies North and South) might become the North, otherwise it puzzles us to account for the inverting of compasses by lightning; since their needles must always be found in that situation, and by our little Experiments, whether the blast entered the North and went out at the South end of the needle, or the contrary, still the end that lay to the North should continue to point North.

In these experiments the ends of the needles are sometimes finely blued like a watch-spring by the electric flame. This colour given by the flash from two jars only, will wipe off, but four jars fix it, and frequently melt the needles. I send you some that have had their heads and points melted off by our mimic lightning; and a pin, that had its point melted off, and some part of its head and neck run.

Sometimes the surface on the body of the needle is also run, and appears blister'd when examined by a magnifying-glass. The jars I make use of hold 7 or 8 gallons, and are coated and lined with tin-foil; each of them takes a thousand turns[1] of a globe nine inches diameter to charge it.

I send you two specimens of tin-foil melted between glass, by the force of two jars only.

I have not heard that any of your *European* electricians have ever been able to fire gunpowder by the electric flame. We do it here in this manner. A small cartridge is filled with dry powder, hard rammed, so as to bruise some of the grains; two pointed wires are then thrust in, one at each end, the points approaching each other in the middle of the cartridge till within the distance of half an inch; then, the cartridge being placed in the circle, when the four jars are discharged, the electric flame leaping from the point of one wire to the point of the other, within the cartridge amongst the powder, *fires it*, and the explosion of the powder is at the same instant with the crack of the discharge. Yours, &c.

B. FRANKLIN.

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96. TO PETER COLLINSON[2]

SIR, Philadelphia, July 29, 1750.

As you first put us on electrical experiments, by sending to our library company a tube, with directions how to use it; and as our honourable proprietary enabled us to carry

[1] The cushion being afterwards covered with a long flap of buckskin, which might cling to the globe, and care being taken to keep that flap of a due temperature; between too dry and too moist, we found so much more of the electric fluid was obtained, as that 150 turns were sufficient. 1753.

[2] From "Experiments and Observations on Electricity," London, 1769, p. 53.

those experiments to a greater height, by his generous present of a compleat electrical apparatus; 'tis fit that both should know, from time to time, what progress we make. It was in this view I wrote and sent you my former papers on this subject, desiring, that, as I had not the honour of a direct correspondence with that bountiful benefactor to our library, they might be communicated to him through your hands. In the same view I write and send you this additional paper. If it happens to bring you nothing new, (which may well be, considering the number of ingenious men in *Europe*, continually engaged in the same researches) at least it will show, that the instruments put into our hands are not neglected; and, that if no valuable discoveries are made by us, whatever the cause may be, it is not want of industry and application.

I am, Sir, your much obliged Humble Servant,

B. FRANKLIN.

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97. *Opinions and Conjectures, concerning the Properties and Effects of the Electrical Matter, arising from Experiments and Observations, made at Philadelphia*, 1749.[1]

§ 1. THE electrical matter consists of particles extremely subtile, since it can permeate common matter, even the densest metals, with such ease and freedom as not to receive any perceptible resistance.

2. If any one should doubt whether the electrical matter passes thro' the substance of bodies, or only over and along their surfaces, a shock from an electrified large glass jar, taken through his own body, will probably convince him.

[1] From "Experiments and Observations on Electricity," London, 1769, p. 54.

3. Electrical matter differs from common matter in this, that the parts of the latter mutually attract, those of the former mutually repel, each other. Hence the appearing divergency in a stream of electrified effluvia.

4. But though the particles of electrical matter do repel each other, they are strongly attracted by all other matter.[1]

5. From these three things, the extreme subtilty of the electrical matter, the mutual repulsion of its parts, and the strong attraction between them and other matter, arise this effect, that, when a quantity of electrical matter is applied to a mass of common matter, of any bigness or length, within our observation, (which hath not already got its quantity) it is immediately and equally diffused through the whole.

6. Thus, common matter is a kind of spunge to the electrical fluid. And as a spunge would receive no water if the parts of water were not smaller than the pores of the spunge; and even then but slowly, if there were not a mutual attraction between those parts and the parts of the spunge; and would still imbibe it faster, if the mutual attraction among the parts of the water did not impede, some force being required to separate them; and fastest, if, instead of attraction, there were a mutual repulsion among those parts, which would act in conjunction with the attraction of the spunge; so is the case between the electrical and common matter.

7. But in common matter there is (generally) as much of the electrical, as it will contain within its substance. If

[1] See the ingenious Essays on Electricity, in the *Transactions*, by Mr. *Ellicot.* — F.

more is added, it lies without upon the surface, and forms what we call an electrical atmosphere; and then the body is said to be electrified.

8. 'Tis supposed, that all kinds of common matter do not attract and retain the electrical, with equal strength and force, for reasons to be given hereafter. And that those called electrics *per se*, as glass, &c., attract and retain it strongest, and contain the greatest quantity.

9. We know that the electrical fluid is *in* common matter, because we can pump it *out* by the globe or tube. We know that common matter has near as much as it can contain, because, when we add a little more to any portion of it, the additional quantity does not enter, but forms an electrical atmosphere. And we know that common matter has not (generally) more than it can contain, otherwise all loose portions of it would repel each other, as they constantly do when they have electric atmospheres.

10. The beneficial uses of this electric fluid in the creation, we are not yet well acquainted with, though doubtless such there are, and those very considerable; but we may see some pernicious consequences that would attend a much greater proportion of it. For had this globe we live on, as much of it in proportion as we can give to a globe of iron, wood, or the like, the particles of dust and other light matters that get loose from it, would, by virtue of their separate electrical atmospheres, not only repel each other, but be repelled from the earth, and not easily be brought to unite with it again; whence our air would continually be more and more clogged with foreign matter, and grow unfit for respiration. This affords another occasion of adoring that wisdom which has made all things by weight and measure!

11. If a piece of common matter be supposed entirely free from electrical matter, and a single particle of the latter be brought nigh, it will be attracted, and enter the body, and take place in the center, or where the attraction is every way equal. If more particles enter, they take their places where the balance is equal between the attraction of the common matter, and their own mutual repulsion. 'Tis supposed they form triangles, whose sides shorten as their number increases; till the common matter has drawn in so many, that its whole power of compressing those triangles by attraction, is equal to their whole power of expanding themselves by repulsion; and then will such piece of matter receive no more.

12. When part of this natural proportion of electrical fluid is taken out of a piece of common matter, the triangles formed by the remainder, are supposed to widen by the mutual repulsion of the parts, until they occupy the whole piece.

13. When the quantity of electrical fluid, taken from a piece of common matter, is restored again, it enters, the expanded triangles being again compressed till there is room for the whole.

14. To explain this: take two apples, or two balls of wood or other matter, each having its own natural quantity of the electrical fluid. Suspend them by silk lines from the cieling. Apply the wire of a well-charged vial, held in your hand, to one of them (*A*) Fig. 7, and it will receive from the wire a quantity of the electrical fluid, but will not imbibe it, being already full. The fluid therefore will flow round its surface, and form an electrical atmosphere. Bring *A* into contact with *B*, and half the electrical fluid is communicated, so that each has now an electrical atmosphere, and

therefore they repel each other. Take away these atmospheres by touching the balls, and leave them in their natural state: then, having fixed a stick of sealing-wax to the middle of the vial to hold it by, apply the wire to *A*, at the same time the coating touches *B*. Thus will a quantity of the electrical fluid be drawn out of *B*, and thrown on *A*. So that *A* will have a redundance of this fluid, which forms an atmosphere round it, and *B* an exactly equal deficiency. Now, bring these balls again into contact, and the electrical atmosphere will not be divided between *A* and *B*, into two smaller atmospheres as before; for *B* will drink up the whole atmosphere of *A*, and both will be found again in their natural state.

15. The form of the electrical atmosphere is that of the body it surrounds. This shape may be rendered visible in a still air, by using a smoke from dry rosin dropt into a hot tea-spoon under the electrified body, which will be attracted, and spread itself equally on all sides, covering and concealing the body.[1] And this form it takes, because it is attracted by all parts of the surface of the body, though it cannot enter the substance already replete. Without this attraction, it would not remain round the body, but dissipate in the air.

16. The atmosphere of electrical particles surrounding an electrified sphere, is not more disposed to leave it, or more easily drawn off from any one part of the sphere than from another, because it is equally attracted by every part. But that is not the case with bodies of any other figure. From a cube it is more easily drawn at the corners than at the plane sides and so from the angles of a body of any other form, and

[1] See p. 183.

still most easily from the angle that is most acute. Thus, if a body shaped as *A*, *B*, *C*, *D*, *E*, in Fig. 8 [see p. 328], be electrified, or have an electrical atmosphere communicated to it, and we consider every side as a base on which the particles rest, and by which they are attracted, one may see, by imagining a line from *A* to *F*, and another from *E* to *G*, that the portion of the atmosphere included in *F*, *A*, *E*, *G*, has the line *A E* for its basis. So the portion of atmosphere included in *H*, *A*, *B*, *I*, has the line *A*, *B*, for its basis. And likewise the portion included in *K*, *B*, *C*, *L*, has *B*, *C*, to rest on; and so on the other side of the figure. Now if you would draw off this atmosphere with any blunt smooth body, and approach the middle of the side *A*, *B*, you must come very near, before the force of your attractor exceeds the force or power with which that side holds its atmosphere. But there is a small portion between *I*, *B*, *K*, that has less of the surface to rest on, and to be attracted by, than the neighbouring portions, while at the same time there is a mutual repulsion between its particles, and the particles of those portions; therefore here you can get it with more ease, or at a greater distance. Between *F*, *A*, *H*, there is a larger portion that has yet a less surface to rest on, and to attract it; here, therefore, you can get it away still more easily. But easiest of all, between *L*, *C*, *M*, where the quantity is largest, and the surface to attract and keep it back the least. When you have drawn away one of these angular portions of the fluid, another succeeds in its place, from the nature of fluidity, and the mutual repulsion before mentioned; and so the atmosphere continues flowing off at such angle, like a stream, till no more is remaining. The extremities of the portions of atmosphere over these angular parts, are like-

wise at a greater distance from the electrified body, as may be seen by the inspection of the above figure; the point of the atmosphere of the angle *C* being much farther from *C*, than any other part of the atmosphere over the lines *C*, *B*, or *B*, *A*; and, besides the distance arising from the nature of the figure, where the attraction is less, the particles will naturally expand to a greater distance by their mutual repulsion. On these accounts we suppose electrified bodies discharge their atmospheres upon unelectrified bodies more easily, and at a greater distance from their angles and points, than from their smooth sides. Those points will also discharge into the air, when the body has too great an electrical atmosphere, without bringing any non-electric near, to receive what is thrown off. For the air, though an electric *per se*, yet has always more or less water and other non-electric matters mixed with it: and these attract and receive what is so discharged.

17. But points have a property, by which they *draw on* as well as *throw off* the electrical fluid, at greater distances than blunt bodies can. That is, as the pointed part of an electrified body will discharge the atmosphere of that body, or communicate it farthest to another body, so the point of an unelectrified body will draw off the electrical atmosphere from an electrified body, farther than a blunter part of the same unelectrified body will do. Thus a pin held by the head, and the point presented to an electrified body, will draw off its atmosphere at a foot distance; where, if the head were presented instead of the point, no such effect would follow. To understand this, we may consider, that if a person standing on the floor would draw off the electrical atmosphere from an electrified body, an iron crow and a

blunt knitting-needle held alternately in his hand, and presented for that purpose, do not draw with different forces in proportion to their different masses. For the man, and what he holds in his hand, be it large or small, are connected with the common mass of unelectrified matter; and the force with which he draws is the same in both cases, it consisting in the different proportion of electricity in the electrified body, and that common mass. But the force with which the electrified body retains its atmosphere by attracting it, is proportioned to the surface over which the particles are placed; that is, four square inches of that surface retain their atmosphere with four times the force that one square inch retains its atmosphere. And as in plucking the hairs from the horse's tail, a degree of strength not sufficient to pull away a handful at once, could yet easily strip it hair by hair, so a blunt body presented cannot draw off a number of particles at once, but a pointed one, with no greater force, takes them away easily, particle by particle.

18. These explanations of the power and operation of points, when they first occurr'd to me, and while they first floated in my mind, appeared perfectly satisfactory; but now I have wrote them, and considered them more closely in black and white, I must own I have some doubts about them; yet, as I have at present nothing better to offer in their stead, I do not cross them out: for even a bad solution read, and its faults discovered, has often given rise to a good one, in the mind of an ingenious reader.

19. Nor is it of much importance to us, to know the manner in which nature executes her laws; 'tis enough if we know the laws themselves. 'Tis of real use to know that china left in the air unsupported will fall and break; but

how it comes to fall, and *why* it breaks, are matters of speculation. 'Tis a pleasure indeed to know them, but we can preserve our china without it.

20. Thus, in the present case, to know this power of points may possibly be of some use to mankind, though we should never be able to explain it. The following experiments, as well as those in my first paper, shew this power. I have a large prime conductor, made of several thin sheets of clothier's pasteboard, form'd into a tube, near ten feet long and a foot diameter. It is cover'd with *Dutch* emboss'd paper, almost totally gilt. This large metallic surface supports a much greater electrical atmosphere than a rod of iron of 50 times the weight would do. It is suspended by silk lines, and when charged will strike at near two inches distance, a pretty hard stroke, so as to make one's knuckle ach. Let a person standing on the floor present the point of a needle, at 12 or more inches distance from it, and while the needle is so presented, the conductor cannot be charged, the point drawing off the fire as fast as it is thrown on by the electrical globe. Let it be charged, and then present the point at the same distance, and it will suddenly be discharged. In the dark you may see a light on the point, when the experiment is made. And if the person holding the point stands upon wax, he will be electrified by receiving the fire at that distance. Attempt to draw off the electricity with a blunt body, as a bolt of iron round at the end, and smooth, (a silversmith's iron punch, inch thick, is what I use) and you must bring it within the distance of three inches before you can do it, and then it is done with a stroke and crack. As the pasteboard tube hangs loose on silk lines, when you approach it with the punch-iron, it likewise will move towards

the punch, being attracted while it is charged; but if, at the same instant, a point be presented as before, it retires again, for the point discharges it. Take a pair of large brass scales, of two or more feet beam, the cords of the scales being silk. Suspend the beam by a pack-thread from the cieling, so that the bottom of the scales may be about a foot from the floor: The scales will move round in a circle by the untwisting of the pack-thread. Set the iron punch on the end upon the floor, in such a place as that the scales may pass over it in making their circle: Then electrify one scale, by applying the wire of a charged phial to it. As they move round, you see that scale draw nigher to the floor, and dip more when it comes over the punch; and if that be placed at a proper distance, the scale will snap and discharge its fire into it. But, if a needle be stuck on the end of the punch, its point upward, the scale, instead of drawing nigh to the punch, and snapping, discharges its fire silently through the point, and rises higher from the punch. Nay, even if the needle be placed upon the floor near the punch, its point upwards, the end of the punch, tho' so much higher than the needle, will not attract the scale and receive its fire, for the needle will get it and convey it away, before it comes nigh enough for the punch to act. And this is constantly observable in these experiments, that the greater quantity of electricity on the pasteboard tube, the farther it strikes or discharges its fire, and the point likewise will draw it off at a still greater distance.

Now if the fire of electricity and that of lightning be the same, as I have endeavoured to shew at large, in a former paper, this pasteboard tube and these scales may represent electrified clouds. If a tube of only ten feet long will strike

and discharge its fire on the punch at two or three inches distance, an electrified cloud of perhaps 10,000 acres may strike and discharge on the earth at a proportionably greater distance. The horizontal motion of the scales over the floor, may represent the motion of the clouds over the earth; and the erect iron punch, a hill or high building; and then we see how electrified clouds passing over hills or high buildings at too great a height to strike, may be attracted lower till within their striking distance. And lastly, if a needle fixed on the punch with its point upright, or even on the floor below the punch, will draw the fire from the scale silently at a much greater than the striking distance, and so prevent its descending towards the punch; or if in its course it would have come nigh enough to strike, yet being first deprived of its fire it cannot, and the punch is thereby secured from the stroke; I say, if these things are so, may not the knowledge of this power of points be of use to mankind, in preserving houses, churches, ships, &c. from the stroke of lightning, by directing us to fix on the highest parts of those edifices, upright rods of iron made sharp as a needle, and gilt to prevent rusting, and from the foot of those rods a wire down the outside of the building into the ground, or down round one of the shrouds of a ship, and down her side till it reaches the water? Would not these pointed rods probably draw the electrical fire silently out of a cloud before it came nigh enough to strike, and thereby secure us from that most sudden and terrible mischief?

21. To determine the question, whether the clouds that contain lightning are electrified or not, I would propose an experiment to be try'd where it may be done conveniently. On the top of some high tower or steeple, place a kind of

centry-box, (as in Fig. 9,) big enough to contain a man and an electrical stand. From the middle of the stand let an iron rod rise and pass bending out of the door, and then upright 20 or 30 feet, pointed very sharp at the end. If the electrical stand be kept clean and dry, a man standing on it when such clouds are passing low, might be electrified and afford sparks, the rod drawing fire to him from a cloud. If any danger to the man should be apprehended (though I think there would be none), let him stand on the floor of his box, and now and then bring near to the rod the loop of a wire that has one end fastened to the leads, he holding it by a wax handle; so the sparks, if the rod is electrified, will strike from the rod to the wire, and not affect him.

22. Before I leave this subject of lightning, I may mention some other similarities between the effects of that, and those of electricity. Lightning has often been known to strike people blind. A pigeon that we struck dead to appearance by the electrical shock, recovering life, drooped about the yard several days, eat nothing, though crumbs were thrown to it, but declined and died. We did not think of its being deprived of sight; but afterward a pullet struck dead in like manner, being recovered by repeatedly blowing into its lungs, when set down on the floor, ran headlong against the wall, and on examination appeared perfectly blind. Hence we concluded that the pigeon also had been absolutely blinded by the shock. The biggest animal we have yet killed, or tried to kill, with the electrical stroke, was a well-grown pullet.

23. Reading in the ingenious Dr. *Miles's* account of the thunder-storm at *Stretham*, the effect of the lightning in stripping off all the paint that had covered a gilt moulding

of a pannel of wainscot, without hurting the rest of the paint, I had a mind to lay a coat of paint over the filletting of gold on the cover of a book, and try the effect of a strong electrical flash sent through that gold from a charged sheet of glass. But having no paint at hand, I pasted a narrow strip of paper over it; and when dry, sent the flash through the gilding, by which the paper was torn off from end to end, with such force, that it was broke in several places, and in others brought away part of the grain of the Turky-leather in which it was bound; and convinced me, that had it been painted, the paint would have been stript off in the same manner with that on the wainscot at *Stretham*.

24. Lightning melts metals, and I hinted in my paper on that subject, that I suspected it to be a cold fusion; I do not mean a fusion by force of cold, but a fusion without heat.[1] We have also melted gold, silver, and copper, in small quantities, by the electrical flash. The manner is this: Take leaf gold, leaf silver, or leaf gilt copper, commonly called leaf brass, or *Dutch* gold; cut off from the leaf long narrow strips, the breadth of a straw. Place one of these strips between two strips of smooth glass that are about the width of your finger. If one strip of gold, the length of the leaf, be not long enough for the glass, add another to the end of it, so that you may have a little part hanging out loose at each end of the glass. Bind the pieces of glass together from end to end with strong silk thread; then place it so as to be part of an electrical circuit, (the ends of gold hanging out being of use to join with the other parts of the circuit,) and send the flash through it, from a large electrified jar or sheet of glass. Then if your strips of glass remain whole,

[1] See note in page 431.

you will see that the gold is missing in several places, and instead of it a metallic stain on both the glasses; the stains on the upper and under glass exactly similar in the minutest stroke, as may be seen by holding them to the light; the metal appeared to have been not only melted, but even vitrified, or otherwise so driven into the pores of the glass, as to be protected by it from the action of the strongest *Aqua Fortis* or *Aqua Regia*. I send you enclosed two little pieces of glass with these metallic stains upon them, which cannot be removed without taking part of the glass with them. Sometimes the stain spreads a little wider than the breadth of the leaf, and looks brighter at the edge, as by inspecting closely you may observe in these. Sometimes the glass breaks to pieces; once the upper glass broke into a thousand pieces, looking like coarse salt. The pieces I send you were stain'd with *Dutch* gold. True gold makes a darker stain, somewhat reddish; silver, a greenish stain. We once took two pieces of thick looking-glass, as broad as a *Gunter's* scale, and six inches long; and placing leaf gold between them, put them between two smoothly-plain'd pieces of wood, and fix'd them tight in a book-binder's small press; yet though they were so closely confined, the force of the electrical shock shivered the glass into many pieces. The gold was melted, and stain'd into the glass, as usual. The circumstances of the breaking of the glass differ much in making the experiment, and sometimes it does not break at all: but this is constant, that the stains in the upper and under pieces are exact counterparts of each other. And though I have taken up the pieces of glass between my fingers immediately after this melting, I never could perceive the least warmth in them.

25. In one of my former papers, I mentioned, that gilding on a book, though at first it communicated the shock perfectly well, yet failed after a few experiments, which we could not account for. We have since found that one strong shock breaks the continuity of the gold in the filletting, and makes it look rather like dust of gold, abundance of its parts being broken and driven off; and it will seldom conduct above one strong shock. Perhaps this may be the reason: When there is not a perfect continuity in the circuit, the fire must leap over the vacancies: There is a certain distance which it is able to leap over according to its strength; if a number of small vacancies, though each be very minute, taken together exceed that distance, it cannot leap over them, and so the shock is prevented.

26. From the before-mentioned law of electricity, that points as they are more or less acute, draw on and throw off the electrical fluid with more or less power, and at greater or less distances, and in larger or smaller quantities in the same time, we may see how to account for the situation of the leaf of gold suspended between two plates, the upper one continually electrified, the under one in a person's hand standing on the floor. When the upper plate is electrified, the leaf is attracted, and raised towards it, and would fly to that plate, were it not for its own points. The corner that happens to be uppermost when the leaf is rising, being a sharp point, from the extream thinness of the gold, draws and receives at a distance a sufficient quantity of the electric fluid to give itself an electric atmosphere, by which its progress to the upper plate is stopt, and it begins to be repelled from that plate, and would be driven back to the under plate, but that its lowest corner is likewise a point, and throws off

or discharges the overplus of the leaf's atmosphere, as fast as the upper corner draws it on. Were these two points perfectly equal in acuteness, the leaf would take place exactly in the middle space, for its weight is a trifle compared to the power acting on it: But it is generally nearest the unelectrified plate, because, when the leaf is offered to the electrified plate, at a distance, the sharpest point is commonly first affected and raised towards it; so *that* point, from its greater acuteness, receiving the fluid faster than its opposite can discharge it at equal distances, it retires from the electrified plate, and draws nearer to the unelectrified plate, till it comes to a distance where the discharge can be exactly equal to the receipt, the latter being lessened, and the former encreased; and there it remains as long as the globe continues to supply fresh electrical matter. This will appear plain, when the difference of acuteness in the corners is made very great. Cut a piece of *Dutch* gold (which is fittest for these experiments on account of its greater strength) into the form of Fig. 10, the upper corner a right angle, the two next obtuse angles, and the lowest a very acute one; and bring this on your plate under the electrified plate, in such a manner as that the right-angled part may be first raised (which is done by covering the acute part with the hollow of your hand) and you will see this leaf take place much nearer to the upper than the under plate; because, without being nearer, it cannot receive so fast at its right-angled point, as it can discharge at its acute one. Turn this leaf with the acute part uppermost, and then it takes place nearest the unelectrified plate; because, otherwise, it receives faster at its acute point, than it can discharge at its right-angled one. Thus the difference of distance is always proportioned to the dif-

ference of acuteness. Take care in cutting your leaf, to leave no little ragged particles on the edges, which sometimes form points where you would not have them. You may make this figure so acute below, and blunt above, as to need no under plate, it discharging fast enough into the air. When it is made narrower, as the figure between the pricked lines, we call it the *Golden Fish*, from its manner of acting. For if you take it by the tail, and hold it at a foot or greater horizontal distance from the prime conductor, it will, when let go, fly to it with a brisk but wavering motion, like that of an eel through the water; it will then take place under the prime conductor, at perhaps a quarter or half of an inch distance, and keep a continual shaking of its tail like a fish, so that it seems animated. Turn its tail towards the prime conductor, and then it flies to your finger, and seems to nibble it. And if you hold a plate under it at six or eight inches distance, and cease turning the globe, when the electrical atmosphere of the conductor grows small, it will descend to the plate, and swim back again several times, with the same fish-like motion, greatly to the entertainment of spectators. By a little practice in blunting or sharpening the heads or tails of these figures, you may make them take place as desired, nearer or farther from the electrified plate.

27. It is said, in Section 8 of this paper, that all kinds of common matter are supposed not to attract the electrical fluid with equal strength; and that those called electrics *per se*, as glass, &c., attract and retain it strongest, and contain the greatest quantity. This latter position may seem a paradox to some, being contrary to the hitherto received opinion; and therefore I shall now endeavour to explain it.

28. In order to this, let it first be consider'd, *that we can-*

any means we are yet acquainted with, force the electrical fluid thro' glass. I know it is commonly thought, t it easily pervades glass; and the experiment of a feather pended by a thread, in a bottle hermetically sealed, yet moved by bringing a rubbed tube near the outside of the bottle, is alledged to prove it. But, if the electrical fluid so easily pervades glass, how does the vial become *charged* (as we term it), when we hold it in our hands? Would not the fire thrown in by the wire, pass through to our hands, and so escape into the floor? Would not the bottle in that case left just as we found it, uncharged, as we know a metal ottle so attempted to be charged would be? Indeed, if here be the least crack, the minutest solution of continuity the glass, though it remains so tight that nothing else e know of will pass, yet the extremely subtile electric fluid s through such a crack with the greatest freedom, and ch a bottle we know can never be charged: What then makes the difference between such a bottle and one that is sound, but this, that the fluid can pass through the one, and not through the other?[1]

29. It is true, there is an experiment, that at first sight would be apt to satisfy a slight observer, that the fire thrown into the bottle by the wire, does really pass thro' the glass. It is this: place the bottle on a glass stand, under the prime conductor; suspend a bullet by a chain from the prime conductor, till it comes within a quarter of an inch right over the wire of the bottle; place your knuckle on the glass stand, at just the same distance from the coating of the bottle, as the bullet is from its wire. Now let the globe be

[1] See the first sixteen Sections of the former paper, called *Farther Experiments*, &c.

turned, and you see a spark strike from the bullet to the wire of the bottle, and the same instant you see and feel an exactly equal spark striking from the coating on your knuckle, and so on, spark for spark. This looks as if the whole received by the bottle was again discharged from it. And yet the bottle by this means is charged![1] And therefore the fire that thus leaves the bottle, though the same in quantity, cannot be the very same fire that entered at the wire, for if it were, the bottle would remain uncharged.

30. If the fire that so leaves the bottle be not the same that is thrown in through the wire, it must be fire that subsisted in the bottle (that is, in the glass of the bottle) before the operation began.

31. If so, there must be a great quantity in glass, because a great quantity is thus discharged, even from very thin glass.

32. That this electrical fluid or fire is strongly attracted by glass, we know from the quickness and violence with which it is resumed by the part that had been deprived of it, when there is an opportunity. And by this, that we cannot from a mass of glass, draw a quantity of electric fire, or electrify the whole mass *minus*, as we can a mass of metal. We cannot lessen or increase its whole quantity, for the quantity it has it holds; and it has as much as it can hold. Its pores are filled with it as full as the mutual repellency of the particles will admit; and what is already in, refuses, or strongly repels, any additional quantity. Nor have we any way of moving the electrical fluid in glass, but one; that is, by covering part of the two surfaces of thin glass with non-electrics, and then throwing an additional quantity of this

[1] See Sect. 10, of *Farther Experiments*, &c.

fluid on one surface, which spreading in the non-electric, and being bound by it to that surface, acts by its repelling force on the particles of the electrical fluid contained in the other surface, and drives them out of the glass into the non-electric on that side, from whence they are discharged, and then those added on the charged side can enter. But when this is done, there is no more in the glass, nor less than before, just as much having left it on one side as it received on the other.

33. I feel a want of terms here, and doubt much whether I shall be able to make this part intelligible. By the word *surface*, in this case, I do not mean mere length and breadth without thickness; but when I speak of the upper or under surface of a piece of glass, the outer or inner surface of the vial, I mean length, breadth, and half the thickness, and beg the favour of being so understood. Now, I suppose, that glass in its first principles, and in the furnace, has no more of this electrical fluid than other common matter: That when it is blown, as it cools, and the particles of common fire leave it, its pores become a vacuum: That the component parts of glass are extremely small and fine, I guess from its never showing a rough face when it breaks, but always a polish; and from the smallness of its particles I suppose the pores between them must be exceeding small, which is the reason that aqua-fortis, nor any other menstruum we have, can enter to separate them and dissolve the substance; nor is any fluid we know of, fine enough to enter, except common fire, and the electric fluid. Now the departing fire, leaving a vacuum, as aforesaid, between these pores, which air nor water are fine enough to enter and fill, the electric fluid, (which is everywhere

ready in what we call the non-electrics, and in the non-electric mixtures that are in the air) is attracted in; yet does not become fixed with the substance of the glass, but subsists there as water in a porous stone, retained only by the attraction of the fixed parts, itself still loose and a fluid. But I suppose farther, that in the cooling of the glass, its texture becomes closest in the middle, and forms a kind of partition, in which the pores are so narrow, that the particles of the electrical fluid, which enter both surfaces at the same time, cannot go through, or pass and repass from one surface to the other, and so mix together; yet, though the particles of electric fluid, imbibed by each surface, cannot themselves pass through to those of the other, their repellency can, and by this means they act on one another. The particles of the electric fluid have a mutual repellency, but by the power of attraction in the glass they are condensed or forced nearer to each other. When the glass has received, and, by its attraction, forced closer together so much of this electric fluid, as that the power of attracting and condensing in the one, is equal to the power of expansion in the other, it can imbibe no more, and that remains its constant whole quantity; but each surface would receive more, if the repellency of what is in the opposite surface did not resist its entrance. The quantities of this fluid in each surface being equal, their repelling action on each other is equal; and therefore those of one surface cannot drive out those of the other; but, if a greater quantity is forced into one surface than the glass would naturally draw in, this increases the repelling power on that side, and, overpowering the attraction on the other, drives out part of the fluid that had been imbibed by that surface, if there be any non-electric ready

to receive it; such there is in all cases where glass is electrified to give a shock. The surface that has been thus emptied by having its electrical fluid driven out, resumes again an equal quantity with violence, as soon as the glass has an opportunity to discharge that over quantity more than it could retain by attraction in its other surface, by the additional repellency of which the vacuum had been occasioned. For experiments favouring (if I may not say confirming) this hypothesis, I must, to avoid repetition, beg leave to refer you back to what is said of the electrical phial in my former papers.

34. Let us now see how it will account for several other appearances. Glass, a body extremely elastic (and perhaps its elasticity may be owing in some degree to the subsisting of so great a quantity of this repelling fluid in its pores) must, when rubbed, have its rubbed surface somewhat stretched, or its solid parts drawn a little farther asunder, so that the vacancies, in which the electrical fluid resides, become larger, affording room for more of that fluid, which is immediately attracted into it from the cushion or hand rubbing, they being supplied from the common stock. But the instant the parts of the glass so opened and filled, have passed the friction, they close again, and force the additional quantity out upon the surface, where it must rest till that part comes round to the cushion again, unless some non-electric (as the prime conductor) first presents to receive it.[1]

[1] In the dark, the electric fluid may be seen on the cushion in two semicircles or half-moons, one on the fore part, the other on the back part of the cushion, just where the globe and cushion separate. In the fore crescent the fire is passing out of the cushion into the glass; in the other it is leaving the glass, and returning into the back part of the cushion. When the prime conductor is apply'd to take it off the glass, the back crescent disappears. — F.

But if the inside of the globe be lined with a non-electric, the additional repellency of the electrical fluid, thus collected by friction on the rubb'd part of the globe's outer surface, drives an equal quantity out of the inner surface into that non-electric lining, which receiving it, and carrying it away from the rubb'd part into the common mass, through the axis of the globe, and frame of the machine, the new-collected electrical fluid can enter and remain in the outer surface, and none of it (or a very little) will be received by the prime conductor. As this charg'd part of the globe comes round to the cushion again, the outer surface delivers its overplus fire into the cushion, the opposite inner surface receiving at the same time an equal quantity from the floor. Every electrician knows, that a globe wet within will afford little or no fire; but the reason has not before been attempted to be given, that I know of.

34 (sic). So if a tube lined with a non-electric be rubb'd,[1] little or no fire is obtained from it. What is collected from the hand, in the downward rubbing stroke, entering the pores of the glass, and driving an equal quantity out of the inner surface into the non-electric lining: and the hand in passing up to take a second stroke, takes out again what had been thrown into the outer surface, and then the inner surface receives back again what it had given to the non-electric lining. Thus the particles of electrical fluid belonging to the inside surface go in and out of their pores every stroke given to the tube. Put a wire into the tube, the inward end in contact with the non-electric lining, so it will represent the *Leyden* bottle. Let a second person touch the wire while you rub, and the fire driven out of the inward surface

[1] Gilt Paper, with the gilt face next the glass, does well.

when you give the stroke, will pass through him into the common mass, and return through him when the inner surface resumes its quantity, and therefore this new kind of *Leyden* bottle cannot be so charged. But thus it may: after every stroke, before you pass your hand up to make another, let a second person apply his finger to the wire, take the spark, and then withdraw his finger; and so on till he has drawn a number of sparks; thus will the inner surface be exhausted, and the outer surface charged; then wrap a sheet of gilt paper close round the outer surface, and grasping it in your hand you may receive a shock by applying the finger of the other hand to the wire: for now the vacant pores in the inner surface resume their quantity, and the overcharg'd pores in the outer surface discharge that overplus; the equilibrium being restored through your body, which could not be restored through the glass.[1] If the tube be exhausted of air, a non-electric lining, in contact with the wire, is not necessary; for *in vacuo*, the electrical fire will fly freely from the inner surface, without a non-electric conductor: but air resists in motion; for being itself an electric *per se*, it does not attract it, having already its quantity. So the air never draws off an electric atmosphere from any body, but in proportion to the non-electrics mix'd with it: it rather keeps such an atmosphere confin'd, which from the mutual repulsion of its particles, tends to dissipation, and would immediately dissipate *in vacuo*. And thus the experiment of the feather inclosed in a glass vessel hermetically sealed, but moving on the approach of the rubbed tube, is explained: When an additional quantity of the electrical fluid is applied to the side of the vessel by the atmosphere

[1] See *Farther Experiments*, Sect. 15.

of the tube, a quantity is repelled and driven out of the inner surface of that side into the vessel, and there affects the feather, returning again into its pores, when the tube with its atmosphere is withdrawn; not that the particles of that atmosphere did themselves pass through the glass to the feather. And every other appearance I have yet seen, in which glass and electricity are concerned, are, I think, explained with equal ease by the same hypothesis. Yet, perhaps, it may not be a true one, and I shall be obliged to him that affords me a better.

35. Thus I take the difference between non-electrics, and glass, an electric *per se*, to consist in these two particulars. 1st, That a non-electric easily suffers a change in the quantity of the electric fluid it contains. You may lessen its whole quantity, by drawing out a part, which the whole body will again resume; but of glass you can only lessen the quantity contained in one of its surfaces; and not that, but by supplying an equal quantity at the same time to the other surface; so that the whole glass may always have the same quantity in the two surfaces, their two different quantities being added together. And this can only be done in glass that is thin; beyond a certain thickness we have yet no power that can make this change. And, 2dly, that the electric fire freely removes from place to place, in and through the substance of a non-electric, but not so through the substance of glass. If you offer a quantity to one end of a long rod of metal, it receives it, and when it enters, every particle that was before in the rod, pushes its neighbour quite to the farther end, where the overplus is discharged; and this instantaneously where the rod is part of the circle in the experiment of the shock. But glass, from the small-

ness of its pores, or stronger attraction of what it contains, refuses to admit so free a motion; a glass rod will not conduct a shock, nor will the thinnest glass suffer any particle entering one of its surfaces to pass through to the other.

36. Hence we see the impossibility of success in the experiments proposed, to draw out the effluvial virtues of a non-electric, as cinnamon for instance, and mixing them with the electric fluid, to convey them with that into the body, by including it in the globe, and then applying friction, &c. For though the effluvia of cinnamon, and the electric fluid should mix within the globe, they would never come out together through the pores of the glass, and so go to the prime conductor; for the electric fluid itself cannot come through; and the prime conductor is always supply'd from the cushion, and that from the floor. And besides, when the globe is filled with cinnamon, or other non-electric, no electric fluid can be obtained from its outer surface, for the reason before mentioned. I have tried another way, which I thought more likely to obtain a mixture of the electric and other effluvia together, if such a mixture had been possible. I placed a glass plate under my cushion, to cut off the communication between the cushion and floor; then brought a small chain from the cushion into a glass of oil of turpentine, and carried another chain from the oil of turpentine to the floor, taking care that the chain from the cushion to the glass touch'd no part of the frame of the machine. Another chain was fixed to the prime conductor, and held in the hand of a person to be electrified. The ends of the two chains in the glass were near an inch distant from each other, the oil of turpentine between. Now the globe being turned,

could draw no fire from the floor through the machine, the communication that way being cut off by the thick glass plate under the cushion: it must then draw it through the chains whose ends were dipped in the oil of turpentine. And as the oil of turpentine, being an electric *per se*, would not conduct, what came up from the floor was obliged to jump from the end of one chain to the end of the other, through the substance of that oil, which we could see in large sparks, and so it had a fair opportunity of seizing some of the finest particles of the oil in its passage, and carrying them off with it: but no such effect followed, nor could I perceive the least difference in the smell of the electric effluvia thus collected, from what it has when collected otherwise, nor does it otherwise affect the body of a person electrised. I likewise put into a phial, instead of water, a strong purgative liquid, and then charged the phial, and took repeated shocks from it, in which case every particle of the electrical fluid must, before it went through my body, have first gone through the liquid when the phial is charging, and returned through it when discharging, yet no other effect followed than if it had been charged with water. I have also smelt the electric fire when drawn thro' gold, silver, copper, lead, iron, wood, and the human body, and could perceive no difference; the odour is always the same where the spark does not burn what it strikes; and therefore I imagine it does not take that smell from any quality of the bodies it passes through. And indeed, as that smell so readily leaves the electric matter, and adheres to the knuckle receiving the sparks, and to other things; I suspect that it never was connected with it, but arises instantaneously from something in the air acted upon by it. For if it was fine enough to come with the electric

fluid through the body of one person, why should it stop on the skin of another?

But I shall never have done, if I tell you all my conjectures, thoughts, and imaginations on the nature and operations of this electric fluid, and relate the variety of little experiments we have tried. I have already made this paper too long, for which I must crave pardon, not having now time to make it shorter. I shall only add, that as it has been observed here that spirits will fire by the electric spark in the summer-time, without heating them, when *Fahrenheit's* thermometer is above 70; so when colder, if the operator puts a small flat bottle of spirits in his bosom, or a close pocket, with the spoon, some little time before he uses them, the heat of his body will communicate warmth more than sufficient for the purpose.

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98. ADDITIONAL EXPERIMENTS;[1]

Proving that the Leyden Bottle has no more Electrical Fire in it when charged, than before; nor less when discharged: That, in discharging, the Fire does not issue from the Wire and the Coating at the same Time, as some have thought, but that the Coating always receives what is discharged by the Wire, or an equal Quantity; the outer Surface being always in a Negative State of Electricity, when the inner Surface is in a Positive State.

PLACE a thick plate of glass under the rubbing cushion, to cut off the communication of electrical fire from the floor to the cushion; then, if there be no fine points or hairy

[1] From "Experiments and Observations on Electricity," London, 1769, p. 86.

threads sticking out from the cushion, or from the parts of the machine opposite to the cushion, (of which you must be careful) you can get but a few sparks from the prime conductor, which are all the cushion will part with.

Hang a phial then on the prime conductor, and it will not charge though you hold it by the coating. But

Form a communication by a chain from the coating to the cushion, and the phial will charge.

For the globe then draws the electric fire out of the outside surface of the phial, and forces it through the prime conductor and wire of the phial, into the inside surface.

Thus the bottle is charged with its own fire, no other being to be had while the glass plate is under the cushion.

Hang two cork balls by flaxen threads to the prime conductor; then touch the coating of the bottle, and they will be electrified and recede from each other.

For, just as much fire as you give the coating, so much is discharged through the wire upon the prime conductor, whence the cork balls receive an electrical atmosphere. But,

Take a wire bent in the form of a C, with a stick of wax fixed to the outside of the curve, to hold it by; and apply one end of this wire to the coating, and the other at the same time to the prime conductor, the phial will be discharged; and if the balls are not electrified before the discharge, neither will they appear to be so after the discharge, for they will not repel each other.

Now if the fire discharged from the inside surface of the bottle through its wire, remained on the prime conductor, the balls would be electrified, and recede from each other.

If the phial really exploded at both ends, and discharged fire from both coating and wire, the balls would be *more*

electrified, and recede *farther;* for none of the fire can escape, the wax handle preventing.

But if the fire, with which the inside surface is surcharged, be so much precisely as is wanted by the outside surface, it will pass round through the wire fixed to the wax handle, restore the equilibrium in the glass, and make no alteration in the state of the prime conductor.

Accordingly we find, that, if the prime conductor be electrified, and the cork balls in a state of repellency before the bottle is discharged, they continue so afterwards. If not, they are not electrified by that discharge.

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99. TO PETER COLLINSON[1]

SIR,

According to your request, I now send you the Arithmetical Curiosity, of which this is the history.

Being one day in the country, at the house of our common friend, the late learned Mr. *Logan*, he shewed me a folio *French* book, filled with magic squares, wrote, if I forget not, by one M. *Frenicle*,[2] in which, he said, the author had discovered great ingenuity and dexterity in the management

[1] From "Experiments and Observations on Electricity," London, 1769, p. 350. The dates of the letters, in which the account of Magical Squares and Magical Circles was communicated to Mr. Collinson, are not known; but in a letter from James Logan to Mr. Collinson, dated February 14th, 1750, the following mention is made of them. "Our Benjamin Franklin," says Mr. Logan, "is certainly an extraordinary man, one of a singular good judgment, but of equal modesty. He is clerk of our Assembly, and there, for want of other employment, while he sat idle, he took it into his head to think of *magical squares*, in which he outdid Frenicle himself, who published above eighty pages in folio on that subject alone." — S.

[2] Bernard Frénicle de Bessy (1605–1675), "Traité des triangles rectangles en nombre" (Paris, 1676). — ED.

of numbers; and, though several other foreigners had distinguished themselves in the same way, he did not recollect that any one *Englishman* had done any thing of the kind remarkable.

I said, it was, perhaps, a mark of the good sense of our *English* mathematicians, that they would not spend their time in things that were merely *difficiles nugæ*, incapable of any useful application. He answered, that many of the arithmetical or mathematical questions, publickly proposed and answered in *England*, were equally trifling and useless. "Perhaps the considering and answering such questions," I replied, "may not be altogether useless, if it produces by practice an habitual readiness and exactness in mathematical disquisitions, which readiness may, on many occasions, be of real use." "In the same way," says he, "may the making of these squares be of use." I then confessed to him, that in my younger days, having once some leisure, (which I still think I might have employed more usefully) I had amused myself in making these kind of magic squares, and, at length, had acquired such a knack at it, that I could fill the cells of any magic square, of reasonable size, with a series of numbers as fast as I could write them, disposed in such a manner, as that the sums of every row, horizontal, perpendicular, or diagonal, should be equal; but not being satisfied with these, which I looked on as common and easy things, I had imposed on myself more difficult tasks, and succeeded in making other magic squares, with a variety of properties, and much more curious. He then shewed me several in the same book, of an uncommon and more curious kind; but, as I thought none of them equal to some I remembered to have made, he desired me to let him

see them; and accordingly, the next time I visited him, I carried him a square of 8, which I found among my old papers, and which I will now give you, with an account of its properties. (See Plate VII. Fig. 1.)

The properties are,

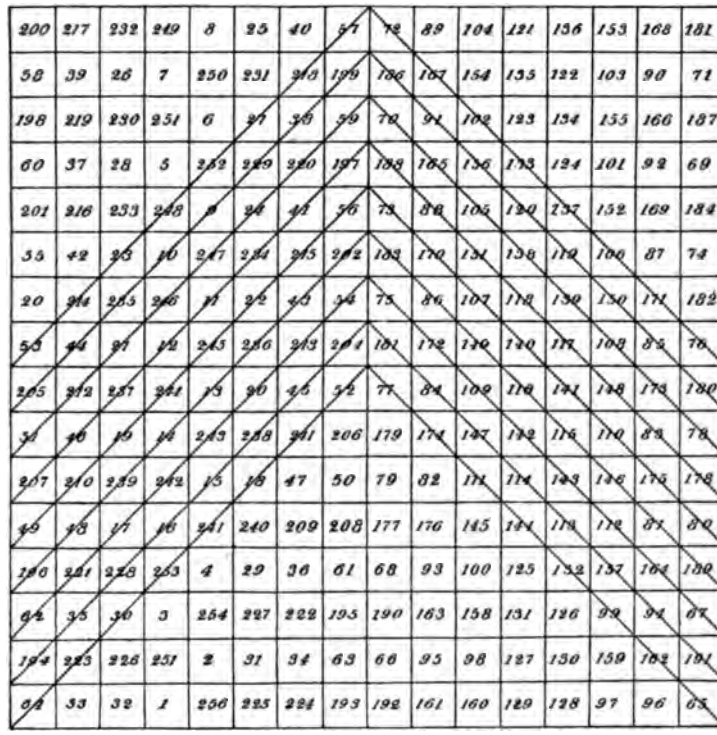
1. That every strait row (horizontal or vertical) of 8 numbers added together, makes 260, and half each row half 260.

2. That the bent row of 8 numbers, ascending and descending diagonally, *viz.* from 16 ascending to 10, and from 23 descending to 17; and every one of its parallel bent rows of 8 numbers, make 260. Also the bent row from 52, descending to 54, and from 43 ascending to 45; and every one of its parallel bent rows of 8 numbers, make 260. Also the bent row from 45 to 43 descending to the left, and from 23 to 17 descending to the right, and every one of its parallel bent rows of 8 numbers, make 260. Also the bent row from 52 to 54 descending to the right, and from 10 to 16 descending to the left, and every one of its parallel bent rows of 8 numbers, make 260. Also the parallel bent rows next to the above-mentioned, which are shortened to 3 numbers ascending, and 3 descending, &c., as from 53 to 4 ascending, and from 29 to 44 descending, make, with the 2 corner numbers, 260. Also the 2 numbers, 14, 61 ascending, and 36, 19, descending, with the lower 4 numbers situated like them, *viz.* 50, 1, descending, and 32, 47, ascending, make 260. And, lastly, the 4 corner numbers, with the 4 middle numbers, make 260.

So this magical square seems perfect in its kind. But these are not all its properties; there are 5 other curious ones, which, at some other time, I will explain to you.

MAGICAL SQUARES.

Fig. 2



200	217	232	249	8	25	40	57	72	89	104	121	136	153	168	181
58	39	26	7	250	231	218	199	186	167	154	135	122	103	90	71
198	219	230	251	6	27	38	59	70	91	102	123	134	155	166	187
60	37	28	5	252	229	220	197	188	165	156	133	124	101	92	69
201	216	233	248	9	24	41	56	73	88	105	120	137	152	169	184
55	42	23	10	247	234	215	202	183	170	151	138	119	106	87	74
20	214	235	246	11	22	43	54	75	86	107	118	139	150	171	182
53	44	21	12	245	236	213	204	181	172	149	140	117	108	85	76
203	212	237	244	13	30	45	52	77	84	109	116	141	148	173	180
51	46	19	14	243	238	211	206	179	174	147	142	115	110	83	78
207	210	239	242	15	18	47	50	79	82	111	114	143	146	175	178
49	48	17	16	241	240	209	208	177	176	145	144	113	112	81	80
190	221	228	253	4	29	36	61	68	93	100	125	132	157	164	189
62	35	30	3	254	227	222	195	190	163	158	131	126	99	94	67
194	223	226	251	2	31	34	63	66	95	98	127	130	159	162	191
64	33	32	1	256	225	224	193	192	161	160	129	128	97	96	65

Fig. 1.

32	61	4	13	20	29	36	45
14	3	62	51	46	35	30	19
53	60	5	12	21	28	37	44
11	6	59	54	45	38	27	22
55	58	7	10	23	26	39	42
9	8	57	56	41	40	25	24
50	63	2	15	18	31	34	47
16	1	64	49	48	33	32	17

PLATE VII

Mr. Logan then shewed me an old arithmetical book, in quarto, wrote, I think, by one *Stifelius*,[1] which contained a square of 16, that he said he should imagine must have been a work of great labour; but if I forget not, it had only the common properties of making the same sum, *viz.* 2056, in every row, horizontal, vertical, and diagonal. Not willing to be out-done by Mr. *Stifelius*, even in the size of my square, I went home, and made, that evening, the following magical square of 16, which, besides having all the properties of the foregoing square of eight, *i.e.* it would make the 2056 in all the same rows and diagonals, had this added, that a four square hole being cut in a piece of paper of such a size as to take in and shew through it, just 16 of the little squares, when laid on the greater square, the sum of the 16 numbers so appearing through the hole, wherever it was placed on the greater square, should likewise make 2056. This I sent to our friend the next morning, who, after some days, sent it back in a letter with these words; "I return to thee thy astonishing or most stupendous piece of the magical square, in which" — but the compliment is too extravagant, and therefore, for his sake, as well as my own, I ought not to repeat it. Nor is it necessary; for I make no question but you will readily allow this square of 16 to be the most magically magical of any magic square ever made by any magician. (See Plate VII. Fig. 2.)

I did not, however, end with squares, but composed also a magick circle, consisting of 8 concentric circles, and 8 radial rows, filled with a series of numbers, from 12 to 75, inclusive, so disposed as that the numbers of each circle,

[1] Mich. Stifelius, "Arithmetica integra cum praefatione Phil. Melanchthonis (Novimb. 1544)." — ED.

or each radial row, being added to the central number 12, they made exactly 360, the number of degrees in a circle; and this circle had, moreover, all the properties of the square of 8. If you desire it, I will send it; but at present, I believe, you have enough on this subject.

I am, &c.

B. FRANKLIN.

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100. TO PETER COLLINSON[1]

SIR,

I am glad the perusal of the magical squares afforded you any amusement. I now send you the magical circle. (See Plate VIII.)

Its properties, besides those mentioned in my former, are these.

Half the numbers in any radial row, added with half the central number, make 180, equal to the number of degrees in a semicircle.

Also half the numbers in any one of the concentric circles, taken either above or below the horizontal double line, with half the central number, make 180.

And, if any four adjoining numbers, standing nearly in a square, be taken from any part, and added with half the central number, they make 180.

There are, moreover, included four other sets of circular spaces, excentric with respect to the first, each of these sets containing five spaces. The centers of the circles that bound them, are at *A*, *B*, *C*, and *D*. Each set, for the more easy

[1] From "Experiments and Observations on Electricity," London, 1769, p. 354.

MAGIC CIRCLE OF CIRCLES.

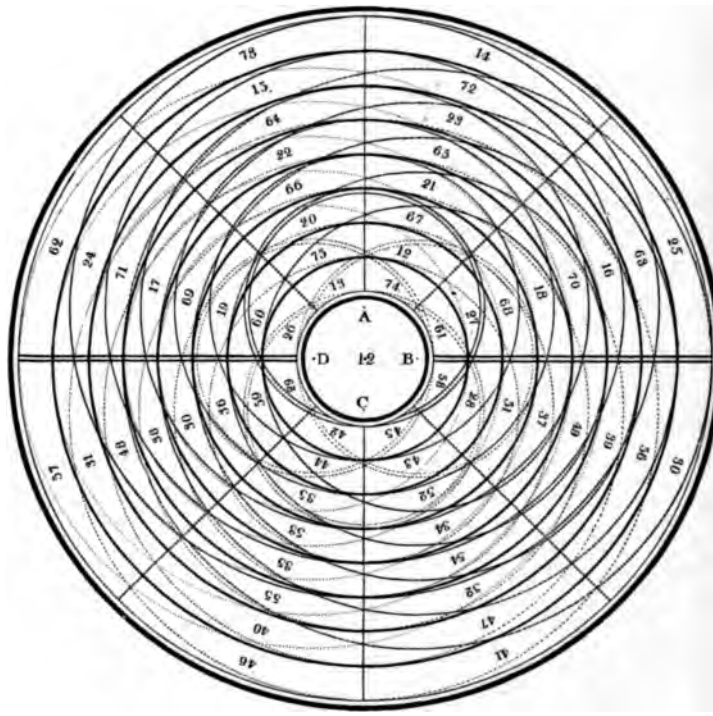


PLATE VIII

distinguishing them from the first, are drawn with a different colour'd ink, red, blue, green, and yellow.[1]

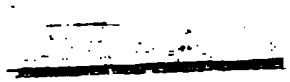
These sets of excentric circular spaces intersect those of the concentric, and each other; and yet the numbers contained in each of the twenty excentric spaces, taken all around, make, with the central number, the same sum as those in each of the 8 concentric, *viz.* 360. The halves, also of those drawn from the centers *A* and *C*, taken above or below the double horizontal line, and of those drawn from centers, *B* and *D*, taken to the right or left of the vertical line, do, with half the central number, make just 180.

It may be observed, that there is not one of the numbers but what belongs at least to two of the different circular spaces; some to three, some to four, some to five; and yet they are all so placed as never to break the required number 360, in any of the twenty-eight circular spaces within the primitive circle.

These interwoven circles make so perplexed an appearance, that it is not easy for the eye to trace every circle of numbers one would examine, through all the maze of circles intersected by it; but if you fix one foot of the compasses in either of the centres, and extend the other to any number in the circle you would examine belonging to that center, the moving foot will point the others out, by passing round over all the numbers of that circle successively. I am, &c.

B. FRANKLIN.

[1] In the plate they are distinguished by dashed or dotted lines, as different as the engraver could well make them. — F.



APPENDIX

101. THE SPEECH OF POLLY BAKER[1]

The Speech of Miss Polly Baker before a Court of Judicature, at Connecticut near Boston in New England; where she was prosecuted the fifth time, for having a Bastard

[1] The Speech of Polly Baker appeared in *The Gentleman's Magazine*, April, 1747, Vol. XVII, p. 175. It appeared later in *The American Museum*, March, 1787, and in other periodicals, and has been reprinted by Parton and Bigelow. Thomas Jefferson tells an interesting story concerning it: "The Doctor and Silas Deane were in conversation one day at Passy on the numerous errors in the Abbé's [Raynal] *Histoire des deux Indes* when he happened to step in. After the usual salutations, Silas Deane said to him: 'the Doctor and myself, Abbé, were just speaking of the errors of fact into which you have been led in your history.' 'Oh no, Sir,' said the Abbé, 'that is impossible. I took the greatest care not to insert a single fact for which I had not the most unquestionable authority.' 'Why,' says Deane, 'there is the story of Polly Baker, and the eloquent apology you have put into her mouth when brought before a court of Massachusetts to suffer punishment under a law, which you cite, for having had a bastard. I know there never was such a law in Massachusetts.' 'Be assured,' said the Abbé, 'you are mistaken, and that that is a true story. I do not immediately recollect indeed the particular information on which I quote it, but I am certain that I had for it unquestionable authority.' Doctor Franklin who had been for some time shaking with restrained laughter at the Abbé's confidence in his authority for the tale, said, 'I will tell you, Abbé, the origin of that story. When I was a printer and editor of a newspaper, we were sometimes slack of news and to amuse our customers, I used to fill up our vacant columns with anecdotes, and fables, and fancies of my own, and this of Polly Baker is a story of my own making, on one of those occasions.' The Abbé without the least disconcert, exclaimed with a laugh, 'Oh, very well, Doctor, I had rather relate your stories than other men's truths.'" (The Writings of Thomas Jefferson, Vol. X, p. 121, note.)

In *The Gentleman's Magazine*, May, 1747, a person who subscribed himself "William Smith" wrote to the editor: "When I was in *New England*

Child: Which influenced the Court to dispense with her Punishment, and which induced one of her Judges to marry her the next Day — by whom she had fifteen Children.

"May it please the honourable bench to indulge me in a few words: I am a poor, unhappy woman, who have no money to fee lawyers to plead for me, being hard put to it to get a living. I shall not trouble your honours with long speeches; for I have not the presumption to expect that you may, by any means, be prevailed on to deviate in your Sentence from the law, in my favour. All I humbly hope is, that your honours would charitably move the governor's

in the year 1745, I had the pleasure of seeing the celebrated *Polly Baker* who was then, though near 60 years of age, a comely woman and the wife of *Paul Dudley* Esq., of *Roxbury*, about two miles from *Boston*, who marry'd her, as is mentioned in the papers and had 15 children by her. I send you this information because it has been insinuated, that the speech publish'd in her name was entirely fictitious; that it could not be the speech of any woman (in which many females for different reasons concur) but was entirely the invention of some Templar or Garretteer." In the following month "L. Americanus" wrote to the editor:

"June 1, 1747

"MR. URBAN

"The Author of the letter in your Magazine for May, sign'd *William Smith* is egregiously imposed upon; for 'tis well known, that *Paul Dudley*, Esq; never acted in any judicial capacity in *Connecticut*, but is chief justice of the province where he has always resided, and has been long married to a daughter of the late GOV. WINTHROP, by whom he never had any children.

"As they are of very good families, and he is one of the first rank in the country 'tis pity their names should be ignorantly or wantonly used in support of a fictitious speech."

In July, 1748, *The Gentleman's Magazine* published an apology for the libel which "thro' the wicked contrivance of one *William Smith*, we unwarily publish'd in our Magazine for May, 1747."

The mystery surrounding the authorship and first publication of the "Speech" remains an impenetrable mystery. The style is altogether Franklinian, and the story seems unquestionably to have been written by him, but I have searched *The Pennsylvania Gazette* in vain for it. It is not there. I have reprinted it from *The Gentleman's Magazine*, and as it is impossible to assign a date for its publication I have relegated it to the Appendix. — ED.

goodness on my behalf, that my fine may be remitted. This is the fifth time, gentlemen, that I have been dragg'd before your court on the same account; twice I have paid heavy fines, and twice have been brought to publick punishment, for want of money to pay those fines. This may have been agreeable to the laws, and I don't dispute it; but since laws are sometimes unreasonable in themselves, and therefore repealed; and others bear too hard on the subject in particular circumstances, and therefore there is left a power somewhere to dispense with the execution of them; I take the liberty to say, that I think this law, by which I am punished, both unreasonable in itself, and particularly severe with regard to me, who have always lived an inoffensive life in the neighbourhood where I was born, and defy my enemies (if I have any) to say I ever wrong'd any man, woman, or child. Abstracted from the law, I cannot conceive (may it please your honours) what the nature of my offense is. I have brought five fine children into the world, at the risque of my life; I have maintain'd them well by my own industry, without burthening the township, and would have done it better, if it had not been for the heavy charges and fines I have paid. Can it be a crime (in the nature of things, I mean) to add to the king's subjects, in a new country, that really wants people? I own it, I should think it rather a praiseworthy than a punishable action. I have debauched no other woman's husband, nor enticed any other youth; these things I never was charg'd with; nor has any one the least cause of complaint against me, unless, perhaps, the ministers of justice, because I have had children without being married, by which they have missed a wedding fee. But can this be a fault of mine? I appeal to your honours. You

are pleased to allow I don't want sense; but I must be stupefied to the last degree, not to prefer the honourable state of wedlock to the condition I have lived in. I always was, and still am willing to enter into it; and doubt not my behaving well in it, having all the industry, frugality, fertility, and skill in economy appertaining to a good wife's character. I defy any one to say I ever refused an offer of that sort: on the contrary, I readily consented to the only proposal of marriage that ever was made me, which was when I was a virgin, but too easily confiding in the person's sincerity that made it, I unhappily lost my honour by trusting to his; for he got me with child, and then forsook me.

"That very person, you all know, he is now become a magistrate of this country; and I had hopes he would have appeared this day on the bench, and have endeavoured to moderate the Court in my favour; then I should have scorn'd to have mentioned it; but I must now complain of it, as unjust and unequal, that my betrayer and undoer, the first cause of all my faults and miscarriages (if they must be deemed such), should be advanced to honour and power in this government that punishes my misfortunes with stripes and infamy. I should be told, 'tis like, that were there no act of Assembly in the case, the precepts of religion are violated by my transgressions. If mine is a religious offense, leave it to religious punishments. You have already excluded me from the comforts of your church communion. Is not that sufficient? You believe I have offended heaven, and must suffer eternal fire: Will not that be sufficient? What need is there then of your additional fines and whipping? I own I do not think as you do, for, if I thought what you call a sin was really such, I could not presumptu-

ously commit it. But, how can it be believed that heaven is angry at my having children, when to the little done by me towards it, God has been pleased to add his divine skill and admirable workmanship in the formation of their bodies, and crowned the whole by furnishing them with rational and immortal souls?

"Forgive me, gentlemen, if I talk a little extravagantly on these matters; I am no divine, but if you, gentlemen, must be making laws, do not turn natural and useful actions into crimes by your prohibitions. But take into your wise consideration the great and growing number of batchelors in the country, many of whom, from the mean fear of the expences of a family, have never sincerely and honourably courted a woman in their lives; and by their manner of living leave unproduced (which is little better than murder) hundreds of their posterity to the thousandth generation. Is not this a greater offense against the publick good than mine? Compel them, then, by law, either to marriage, or to pay double the fine of fornication every year. What must poor young women do, whom customs and nature forbid to solicit the men, and who cannot force themselves upon husbands, when the laws take no care to provide them any, and yet severely punish them if they do their duty without them; the duty of the first and great command of nature and nature's God, *encrease and multiply;* a duty, from the steady performance of which nothing has been able to deter me, but for its sake I have hazarded the loss of the publick esteem, and have frequently endured publick disgrace and punishment; and therefore ought, in my humble opinion, instead of a whipping, to have a statue erected to my memory."

102. A CONJECTURE AS TO THE CAUSE OF THE HEAT OF THE BLOOD IN HEALTH, AND OF THE COLD AND HOT FITS OF SOME FEVERS.[1]

The parts of fluids are so smooth, and roll among one another with so little friction, that they will not by any (mechanical) agitation grow warmer. A phial half full of water shook with violence and long continued, the water neither heats itself nor warms the phial. Therefore the blood does not acquire its heat either from the motion and friction of its own parts, or its friction against the sides of its vessels.

But the parts of solids, by reason of their closer adhesion, cannot move among themselves without friction, and that produces heat. Thus, bend a plummet to and fro, and, in the place of bending, it shall soon grow hot. Friction on any part of our flesh heats it. Clapping of the hands warms them. Exercise warms the whole body.

The heart is a thick muscle, continually contracting and dilating near eighty times in a minute. By this motion there must be a constant interfriction of its constituent solid parts. That friction must produce a heat, and that heat must consequently be continually communicated to the perfluent blood.

To this may be added, that every propulsion of the blood by the contraction of the heart, distends the arteries, which contract again in the intermission; and this distension and contraction of the arteries may occasion heat in them, which

[1] This piece was found by Sparks in Franklin's handwriting among the papers of Cadwallader Colden. Its date is uncertain. — ED.

they must likewise communicate to the blood that flows through them.

That these causes of the heat of the blood are sufficient to produce the effect, may appear probable, if we consider that a fluid once warm requires no more heat to be applied to it in any part of time to keep it warm, than what it shall lose in an equal part of time. A smaller force will keep a pendulum going, than what first set it in motion.

The blood, thus warmed in the heart, carries warmth with it to the very extremities of the body, and communicates it to them; but, as by this means its heat is gradually diminished, it is returned again to the heart by the veins for a fresh calefaction.

The blood communicates its heat, not only to the solids of our body, but to our clothes, and to a portion of the circumambient air. Every breath, though drawn in cold, is expired warm; and every particle of the *materia perspirabilis* carries off with it a portion of heat.

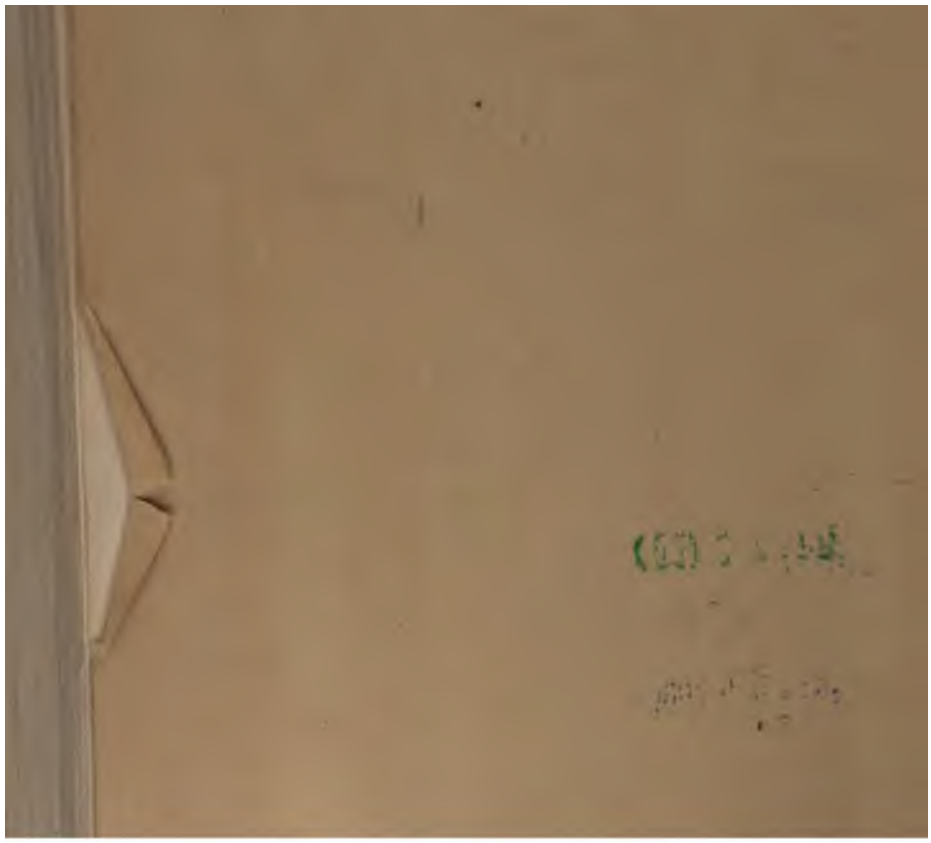
While the blood retains a due fluidity, it passes freely through the minutest vessels, and communicates a proper warmth to the extremities of the body. But when by any means it becomes viscid, as not to be capable of passing those minute vessels, the extremities, as the blood can bring no more heat to them, grow cold.

The same viscidity in the blood and juices checks or stops the perspiration, by clogging the perspiratory ducts, or, perhaps, by not admitting the perspirable parts to separate. Paper wet with size and water will not dry so soon as if wet with water only.

A vessel of hot water, if the vapour can freely pass from it, soon cools. If there be just fire enough under it to add

continually the heat it loses, it retains the same degree. If the vessel be closed, so that the vapour may be retained, there will from the same fire be a continual accession of heat to the water, till it rises to a great degree. Or, if no fire be under it, it will retain the heat it first had for a long time. I have experienced, that a bottle of hot water stopped, and put in my bed at night, has retained so much heat seven or eight hours, that I could not in the morning bear my foot against it, without some of the bedclothes intervening.

During the cold fit, then, perspiration being stopped, great part of the heat of the blood, that used to be dissipated, is confined and retained in the body; the heart continues its motion, and creates a constant accession to that heat; the inward parts grow very hot, and, by contact with the extremities, communicate that heat to them. The glue of the blood is by this heat dissolved, and the blood afterwards flows freely, as before the disorder.



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